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federal register

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MONDAY, SEPTEMBER 27, 1976

THE NATIONAL ARCHIVES OF THE UNITED STATES
LITTERA SCRIPTA MANET
1934

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The six-month trial period ended August 6. The program is being continued on a voluntary basis (see OFR notice, 41 FR 32914, August 6, 1976). The following agencies have agreed to remain in the program:

Monday	Tuesday	Wednesday	Thursday	Friday
NRC	USDA/ASCS		NRC	USDA/ASCS
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Documents normally scheduled on a day that will be a Federal holiday will be published the next work day following the holiday.

Comments on this program are still invited. Comments should be submitted to the Day-of-the-Week Program Coordinator, Office of the Federal Register, National Archives and Records Service, General Services Administration, Washington, D.C. 20408.

ATTENTION: For questions, corrections, or requests for information please see the list of telephone numbers appearing on opposite page.

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rules and regulations

This section of the FEDERAL REGISTER contains regulatory documents having general applicability and legal effect most of which are keyed to and codified in the Code of Federal Regulations, which is published under 50 titles pursuant to 44 U.S.C. 1510.

The Code of Federal Regulations is sold by the Superintendent of Documents. Prices of new books are listed in the first FEDERAL REGISTER issue of each month.

Title 25—Indians

CHAPTER II—BUREAU OF INDIAN AFFAIRS, DEPARTMENT OF THE INTERIOR

PART 221—OPERATION AND MAINTENANCE CHARGES

Tribal and Trust Patent Indian Lands of San Carlos Project, Arizona

On page 32757 of the FEDERAL REGISTER of August 5, 1976, there was published a notice of proposal to modify § 221.110 Basic charge of Title 25, Code of Federal Regulations, dealing with irrigation operation and maintenance assessments against tribal lands and trust patent Indian lands of the San Carlos Irrigation Project.

Interested persons were given 30 days within which to submit written comments, suggestions or objections with respect to the proposed amendment. No comments, suggestions, or objections were received, and the proposed revision is hereby adopted without change, as set forth below.

The revised section will read as follows:

§ 221.110 Basic charge.

Pursuant to section 5 of the Act of June 7, 1924 (43 Stat. 476) and in accordance with the public notice issued on December 1, 1932, operation and maintenance charges are assessable against 50,000 acres of tribal lands and trust patent Indian lands of the San Carlos Indian Irrigation Project within the boundaries of the Gila River Indian Reservation, Arizona. For the calendar year 1977 and subsequent years, unless changed by further order, the basic rate assessed Indian owned land leased and operated by non-Indians is hereby fixed at $24.00 per acre. The basic charge shall entitle each acre of such leased land to have delivered for use thereon two (2) acre-feet of water per acre or its proportionate share of the available water supply. The assessment for those lands leased will be payable as provided in §§ 221.111 and 221.112. Charges for project operation and maintenance costs on account of Indian owned land used by Indians shall not be imposed on the Indian owners of such land. (See Interlocutory Order of the Indian Claims Commission dated January 10, 1974, *Gila River Pima-Maricopa Indian Community et al.* v. *The United States of America*, Docket No. 236–E.)

JOHN ARTICHOKER, Jr.,
Area Director.

[FR Doc.76-28193 Filed 9-24-76;8:45 am]

Title 7—Agriculture

CHAPTER IX—AGRICULTURAL MARKETING SERVICE (MARKETING AGREEMENTS AND ORDERS; FRUITS, VEGETABLES, NUTS), DEPARTMENT OF AGRICULTURE

[Orange Reg. 75; Grapefruit Reg. 77; Tangerine Reg. 48; Tangelo Reg. 48]

PART 905—ORANGES, GRAPEFRUIT, TANGERINES, AND TANGELOS GROWN IN FLORIDA

Grade and Size Regulations

These regulations specify minimum grade and size requirements for the period September 27, 1976, through November 14, 1976, applicable to the handling of Florida oranges, grapefruit, tangerines and tangelos as set forth in the following table:

TABLE

Variety	Domestic regulations		Export regulations	
	Minimum grade	Minimum diameter in inches (count size in 4/5 bu carton)	Minimum grade	Minimum diameter in inches (count size in 4/5 bu carton)
Early midseason oranges	U.S. No. 1	$2\frac{9}{16}$ (size 125)	U.S. No. 1	$2\frac{4}{16}$ (size 163).
Navel oranges	U.S. No. 1 golden	do	U.S. No. 1 golden	Do.
Temple oranges	U.S. No. 1	do	U.S. No. 1	Do.
Murcott honey oranges	Florida No. 1	$2\frac{11}{16}$ (size 120)	Florida No. 1	$2\frac{6}{16}$ (size 150).
Valencia oranges	U.S. No. 1	$2\frac{9}{16}$ (size 125)	U.S. No. 1	$2\frac{4}{16}$ (size 163).
Seeded grapefruit	do	$3\frac{12}{16}$ (size 40)	do	$3\frac{9}{16}$ (size 48).
Seedless grapefruit	Improved No. 2	$3\frac{9}{16}$ (size 48)	Improved No. 2	$3\frac{5}{16}$ (size 64).
Tangerines	U.S. No. 1	$2\frac{4}{16}$ (size 210)	U.S. No. 1	$2\frac{2}{16}$ (size 246).
Tangelos	do	$2\frac{9}{16}$ (size 125)	do	$2\frac{4}{16}$ (size 163).

The regulations are necessary to ensure the shipment of fruit of appropriate grades and sizes in the interest of both growers and consumers. The action is necessary to promote orderly marketing conditions by preventing the adverse effect on the market caused by shipment of lower-quality and smaller-size fruit when more than ample supplies of the more desirable grades and sizes are available to serve consumers' needs.

Findings. (1) Pursuant to the marketing agreement, as amended, and Order No. 905, as amended (7 CFR 905), regulating the handling of oranges, grapefruit, tangerines, and tangelos grown in Florida, effective under the applicable provisions of the Agricultural Marketing Agreement Act of 1937, as amended (7 U.S.C. 601–674), and the recommendations of the committees established under the aforesaid amended marketing agreement and order, and upon other available information, it is hereby found that the regulation of shipments of oranges, including Navel, Temple and Murcott Honey oranges, Valencia, Lue Gim Gong, and similar late maturing oranges of the Valencia type, grapefruit, tangerines, and tangelos, as hereinafter provided, will tend to effectuate the declared policy of the act.

(2) The minimum grade and size requirements specified herein reflect the Department's appraisal of the need for regulation of shipments of the specified varieties of oranges, grapefruit, tangerines, and tangelos during the period September 27 through November 14, 1976, based on the available supply and current and prospective market demand conditions. Available data indicate that during the 1976–77 season fresh market outlets will take about 22,000 carlots of round oranges, 4,200 carlots of Temple oranges, 40 carlots of seeded grapefruit, 39,500 carlots of seedless grapefruit, 4,200 carlots of tangelos, 4,500 carlots of tangerines, and 2,500 carlots of murcotts. The minimum grade and size requirements specified for Early and Midseason type oranges are prescribed during the present stage of maturity and development of such oranges to guard against the shipment of lower quality and smaller size fruit which tends to weaken the market for such fruit. The U.S. No. 1 Golden grade requirement specified herein for Navel oranges is consistent with the fact that Navel oranges tend to possess more surface discoloration.

The specified grade and size requirements for shipments of seeded and seedless grapefruit are necessary to provide consumers with grapefruit of desirable grades and sizes consistent with the overall quality and size composition of the crops.

The size and grade requirements specified herein for tangerines and tangelos are necessary during the early part of the season to prevent the handling of such fruits that are of a lower grade or smaller size in order to provide good-quality fruit to consumers and promote orderly marketing.

The specified grade and size requirements for export shipments of the named varieties of oranges, grapefruit, tangerines and tangelos are necessary to assure the exportation of good-quality fruit and thereby aid the expansion of export markets.

It is concluded that the grade and size requirements hereinafter provided are necessary to provide good-quality fruit in the interest of producers and consumers pursuant to the declared policy of the act.

(3) It is hereby further found that it is impracticable and contrary to the public interest to give preliminary notice, engage in public rulemaking procedure, and postpone the effective date of these regulations until 30 days after publication thereof in the FEDERAL REGISTER (5 U.S.C. 553) because the time intervening between the date when information upon which these regulations are based became available and the time when these regulations must become effective in order to effectuate the declared policy of the act is insufficient; a reasonable time is permitted, under the circumstances, for preparation for such effective time; and good cause exists for making the provisions hereof effective as hereinafter set forth. Shipments of oranges, grapefruit, tangerines, and tangelos, grown in the production area, are presently subject to regulation by grades and sizes, pursuant to the amended marketing agreement and order; the recommendation and supporting information for regulation during the period specified herein was promptly submitted to the Department after an open meeting of the Growers Administrative Committee on September 9, 1976, such meeting was held to consider recommendations for regulation, after giving due notice of such meeting, and interested persons were afforded an opportunity to submit their views at this meeting; the provisions of these regulations, including the effective time hereof, are identical with the aforesaid recommendations of the committee, and information concerning such provisions and effective time has been disseminated among handlers of such fruits; it is necessary to make these regulations effective on September 27, 1976, to preclude the shipment of lower quality oranges, grapefruit, tangerines, and tangelos, as hereinafter set forth, and to otherwise effectuate the declared policy of the act; and compliance with these regulations will not require any special preparation on the part of the persons subject thereto which cannot be completed by the effective time hereof.

§ 905.564 Orange Regulation 75.

Order. (a) During the period September 27, 1976, through November 14, 1976, no handler shall ship between the production area and any point outside thereof in the continental United States, Canada, or Mexico:

(1) Any oranges, except Navel oranges, Temple oranges, Murcott Honey oranges, and Valencia, Lue Gim Gong, and similar late maturing oranges of the Valencia type, grown in the production area, which do not grade at least U.S. No. 1;

(2) Any oranges, except Navel oranges, Temple oranges, Murcott Honey oranges, and Valencia, Lue Gim Gong, and similar late maturing oranges of the Valencia type, grown in the production area, which are of a size smaller than $2\frac{8}{16}$ inches in diameter, except that a tolerance for such oranges smaller than such minimum diameter shall be permitted as specified in § 51.1152 of the United States Standards for Grades of Florida Oranges and Tangelos: *Provided*, That such tolerance for such oranges shall be based only on those oranges in a lot which are of a size $2\frac{14}{16}$ inches in diameter or smaller;

(3) Any Navel oranges, grown in the production area, which do not grade at least U.S. No. 1 Golden;

(4) Any Navel oranges, grown in the production area, which are of a size smaller than $2\frac{8}{16}$ inches in diameter, except that a tolerance for Navel oranges smaller than such minimum diameter shall be permitted as specified in § 51.1152 of the United States Standards for Grades of Florida Oranges and Tangelos;

(5) Any Temple oranges, grown in the production area, which do not grade at least U.S. No. 1;

(6) Any Temple oranges, grown in the production area, which are of a size smaller than $2\frac{8}{16}$ inches in diameter, except that a tolerance for Temple oranges smaller than such minimum diameter shall be permitted as specified in § 51.1152 of the United States Standards for Grades of Florida Oranges and Tangelos;

(7) Any Murcott Honey oranges, grown in the production area, which do not grade at least Florida No. 1 grade for murcotts;

(8) Any Murcott Honey oranges, grown in the production area, which are of a size smaller than $2\frac{11}{16}$ inches in diameter, except that a tolerance for Murcott Honey oranges smaller than such minimum diameter shall be permitted as specified in § 51.1818 of the United States Standards for Grades of Florida Tangerines;

(9) Any Valencia, Lue Gim Gong, and similar late maturing oranges of the Valencia type, grown in the production area, which do not grade at least U.S. No. 1; and

(10) Any Valencia, Lue Gim Gong, and similar late maturing oranges of the Valencia type, grown in the production area, which are of a size smaller than $2\frac{8}{16}$ inches in diameter, except that a tolerance for such oranges smaller than such minimum diameter shall be permitted as specified in § 51.1152 of the United States Standards for Grades of Florida Oranges and Tangelos; *Provided*, That such tolerance for such oranges shall be based only on those oranges in a lot which are $2\frac{14}{16}$ inches in diameter or smaller.

(b) During the period September 27, 1976, through November 14, 1976, no handler shall ship to any destination outside the continental United States other than to Canada or Mexico:

(1) Any oranges, except Navel oranges, Temple oranges, Murcott Honey oranges, and Valencia, Lue Gim Gong and similar late maturing oranges of the Valencia type, grown in the production area, which do not grade at least U.S. No. 1;

(2) Any oranges, except Navel oranges, Temple oranges, Murcott Honey oranges, and Valencia, Lue Gim Gong and similar late maturing oranges of the Valencia type, grown in the production area, which are of a size smaller than $2\frac{4}{16}$ inches in diameter, except that a tolerance for such oranges smaller than such minimum diameter shall be permitted as specified in § 51.1152 of the United States Standards for Grades of Florida Oranges and Tangelos;

(3) Any Navel oranges, grown in the production area, which do not grade at least U.S. No. 1 Golden;

(4) Any Navel oranges, grown in the production area, which are of a size smaller than $2\frac{4}{16}$ inches in diameter, except that a tolerance for Navel oranges smaller than such minimum diameter shall be permitted as specified in § 51.1152 of the United States Standards for Grades of Florida Oranges and Tangelos;

(5) Any Temple oranges, grown in the production area, which do not grade at least U.S. No. 1;

(6) Any Temple oranges, grown in the production area, which are of a size smaller than $2\frac{4}{16}$ inches in diameter, except that a tolerance for Temple oranges smaller than such minimum diameter shall be permitted as specified in § 51.1152 of the United States Standards for Grades of Florida Oranges and Tangelos;

(7) Any Murcott Honey oranges, grown in the production area, which do not grade at least Florida No. 1 grade for murcotts;

(8) Any Murcott Honey oranges, grown in the production area, which are of a size smaller than $2\frac{8}{16}$ inches in diameter, except that a tolerance for Murcott Honey oranges smaller than such minimum diameter shall be permitted as specified in § 51.1818 of the United States Standards for Grades of Florida Tangerines;

(9) Any Valencia, Lue Gim Gong, and similar late maturing oranges of the Valencia type, grown in the production area, which do not grade at least U.S. No. 1; and

(10) Any Valencia, Lue Gim Gong, and similar late maturing oranges of the Valencia type, grown in the production area, which are of a size smaller than $2\frac{4}{16}$ inches in diameter, except that a tolerance for such oranges smaller than such minimum diameter shall be permitted as specified in § 51.1152 of the United States Standards for Grades of Florida Oranges and Tangelos.

(c) Terms used in the amended marketing agreement and order shall, when used herein, have the same meaning as is given to the respective term in said amended marketing agreement and order; Florida No. 1 grade for murcotts shall have the same meaning as provided in Rule No. 20-35.03 of the Regulations of the Florida Department of Citrus, and all other terms relating to grade and diameter, as used herein, shall have the same meaning as is given to the respective term in the revised United States Standards for Grades of Florida Oranges and Tangelos (7 CFR 51.1140–51.1180) or the revised United States Standards for Florida Tangerines (7 CFR 51.1810–51.1835).

§ 905.565 Grapefruit Regulation 77.

Order. (a) During the period September 27, 1976, through November 14, 1976, no handler shall ship between the production area and any point outside thereof in the continental United States, Canada, or Mexico:

(1) Any seeded grapefruit, grown in the production area, which do not grade at least U.S. No. 1;

(2) Any seeded grapefruit, grown in the production area, which are of a size smaller than $3\frac{12}{16}$ inches in diameter, except that a tolerance for seeded grapefruit smaller than such minimum diameter shall be permitted as specified in § 51.761 of the United States Standards for Grades of Florida Grapefruit;

(3) Any seedless grapefruit, grown in the production area, which do not grade at least Improved No. 2; or

(4) Any seedless grapefruit, grown in the production area, which are of a size smaller than $3\frac{9}{16}$ inches in diameter, except that a tolerance for seedless grapefruit smaller than such minimum diameter shall be permitted as specified in § 51.761 of the United States Standards for Grades of Florida Grapefruit.

(b) During the period September 27, 1976, through November 14, 1976, no handler shall ship to any destination outside the continental United States other than to Canada or Mexico:

(1) Any seeded grapefruit, grown in the production area, which do not grade at least U.S. No. 1;

(2) Any seeded grapefruit, grown in the production area, which are of a size smaller than $3\frac{9}{16}$ inches in diameter, except that a tolerance for seeded grapefruit smaller than such minimum diameter shall be permitted as specified in § 51.761 of the United States Standards for Grades of Florida Grapefruit;

(3) Any seedless grapefruit, grown in the production area, which do not grade at least Improved No. 2; or

(4) Any seedless grapefruit, grown in the production area, which are of a size smaller than $3\frac{5}{16}$ inches in diameter, except that a tolerance for seedless grapefruit smaller than such minimum diameter shall be permitted as specified in § 51.761 of the United States Standards for Florida Grapefruit.

(c) Terms used in the amended marketing agreement and order, including Improved No. 2 grade, shall, when used herein, have the same meaning as is given to the respective term in said amended marketing agreement and order; and terms relating to grade, except Improved No. 2 grade, and diameter, as used herein, shall have the same meaning as is given to the respective term in the revised United States Standards for Grades of Florida Grapefruit (7 CFR 51.750–51.784).

§ 905.566 Tangerine Regulation 48.

Order. (a) During the period September 27, 1976, through November 14, 1976, no handler shall ship between the production area and any point outside thereof in the continental United States, Canada, or Mexico:

(1) Any tangerines, grown in the production area, which do not grade at least U.S. No. 1; or

(2) Any tangerines, grown in the production area, which are of a size smaller than $2\frac{1}{16}$ inches in diameter, except that a tolerance for tangerines smaller than such minimum diameter shall be permitted as specified in § 51.1818 of the United States Standards for Grades of Florida Tangerines.

(b) During the period September 27, 1976, through November 14, 1976, no handler shall ship to any destination outside the continental United States other than to Canada or Mexico:

(1) Any tangerines, grown in the production area, which do not grade at least U.S. No. 1; or

(2) Any tangerines, grown in the production area, which are of a size smaller than $2\frac{2}{16}$ inches in diameter, except that a tolerance for tangerines smaller than such minimum diameter shall be permitted as specified in § 51.1818 of the United States Standards for Grades of Florida Tangerines.

(c) Terms used in the amended marketing agreement and order shall, when used herein, have the same meaning as is given to the respective term in said amended marketing agreement and order; and terms relating to grade and diameter, as used herein, shall have the same meaning as is given to the respective term in the revised United States Standards for Grades of Florida Tangerines (7 CFR 51.1810–51.1835).

§ 905.567 Tangelo Regulation 48.

Order. (a) During the period September 27, 1976, through November 14, 1976, no handler shall ship between the production area and any point outside thereof in the continental United States, Canada, or Mexico:

(1) Any tangelos, grown in the production area, which do not grade at least U.S. No. 1; or

(2) Any tangelos, grown in the production area, which are of a size smaller than $2\frac{9}{16}$ inches in diameter, except that a tolerance for tangelos smaller than such minimum diameter shall be permitted as specified in § 51.1152 of the United States Standards for Grades of Florida Oranges and Tangelos.

(b) During the period September 27, 1976, through November 14, 1976, no handler shall ship to any destination outside the continental United States other than to Canada or Mexico:

(1) Any tangelos, grown in the production area, which do not grade at least U.S. No. 1; or

(2) Any tangelos, grown in the production area, which are of a size smaller than $2\frac{1}{16}$ inches in diameter, except that a tolerance for tangelos smaller than such minimum diameter shall be permitted as specified in § 51.1152 of the United States Standards for Grades of Florida Oranges and Tangelos.

(c) Terms used in the amended marketing agreement and order shall, when used herein, have the same meaning as is given to the respective term in said amended marketing agreement and order; and terms relating to grade and diameter, as used herein, shall have the same meaning as is given to the respective term in the revised United States Standards for Grades of Florida Oranges and Tangelos (7 CFR 51.1140–51.1180).

(Secs. 1–19, 48 Stat. 31, as amended; 7 U.S.C. 601–674.)

Dated, September 21, 1976, to become effective September 27, 1976.

CHARLES R. BRADER,
Deputy Director, Fruit and Vegetable Division, Agricultural Marketing Service.

[FR Doc.76-28096 Filed 9-24-76;8:45 am]

[Valencia Orange Reg. 545, Amdt. 1]

PART 908—VALENCIA ORANGES GROWN IN ARIZONA AND DESIGNATED PART OF CALIFORNIA

Limitation of Handling

This regulation increases the quantity of California-Arizona Valencia oranges that may be shipped to fresh market during the weekly regulation period Sept. 17–23, 1976. The quantity that may be shipped is increased due to improved market conditions for California-Arizona Valencia oranges. The regulation and this amendment are issued pursuant to the Agricultural Marketing Agreement Act of 1937, as amended, and Marketing Order No. 908.

§ 908.845 Valencia Orange Regulation 545.

(a) *Findings.* (1) Pursuant to the marketing agreement, as amended, and Order No. 908, as amended (7 CFR Part 908), regulating the handling of Valencia oranges grown in Arizona and designated part of California, effective under the applicable provisions of the Agricultural Marketing Agreement Act of 1937, as amended (7 U.S.C. 601–674) and upon the basis of the recommendation and information submitted by the Valencia Orange Administrative Committee, established under the said amended marketing agreement and order, and upon other available information, it is hereby found that the limitation of handling of such Valencia oranges, as hereinafter provided, will tend to effectuate the declared policy of the act.

(2) The need for an increase in the quantity of oranges available for handling during the current week results from changes that have taken place in the marketing situation since the issuance of Valencia Orange Regulation 545 (41 FR 39735). The marketing picture now indicates that there is a greater demand for Valencia oranges than existed when the regulation was made effective. Therefore, in order to provide an opportunity for handlers to handle a sufficient volume of Valencia oranges to fill the current demand thereby making a greater quantity of Valencia oranges available to meet such increased demand, the regulation should be amended, as hereinafter set forth.

(3) It is hereby further found that it is impracticable and contrary to the public interest to give preliminary notice, engage in public rule-making procedure, and postpone the effective date of this amendment until 30 days after publication thereof in the FEDERAL REGISTER (5 U.S.C. 553) because the time intervening between the date when information upon which this amendment is based became available and the time when this amendment must become effective in order to effectuate the declared policy of the act is insufficient, and this amendment relieves restriction on the handling of Valencia oranges grown in Arizona and designated part of California.

(b) *Order, as amended.* The provisions in paragraph (b)(1)(i), and (ii) of § 903.845 (Valencia Orange Regulation 545) (41 FR 39735) are hereby amended to read as follows:

"(i) District 1: 393,000 cartons;

"(ii) District 2: 482,000 cartons."

(Secs. 1–19, 48 Stat. 31, as amended; 7 U.S.C. 601–674.)

Dated: September 22, 1976.

CHARLES R. BRADER,
Deputy Director, Fruit and Vegetable Division, Agricultural Marketing Service.

[FR Doc.76-28224 Filed 9-24-76;8:45 am]

PART 911—LIMES GROWN IN FLORIDA

Reports

This amendment adds a new section to the rules and regulations currently in effect pursuant to Marketing Order No. 911. The new section requires each handler to furnish the Federal State Inspection Service or the Lime Administrative Committee the date and quantities of limes handled and the destination of each shipment by market region.

Notice was published in the FEDERAL REGISTER issue on September 8, 1976, (41 FR 37812), that the Department was giving consideration to a proposal to amend the rules and regulations (Subpart—Rules and Regulations; 7 CFR 911.110–911.155) under provisions of the marketing agreement, as amended, and Order No. 911, as amended (7 CFR Part 911), regulating the handling of limes grown in Florida, effective under the applicable provisions of the Agricultural Marketing Agreement Act of 1937, as amended (7 U.S.C. 601–674). No comments regarding the proposal were received.

The market destination information on lime shipments, required to be reported, will enable the committee to more effectively perform its duties under the order. The committee will compile and report this data in order to determine the overall distribution pattern of fresh lime shipments. It will be used to indicate areas where there is potential for marketing more limes and in formulating market development, promotion and advertising activities designed to increase sales in such markets.

After consideration of all relevant matters presented, including that in the aforesaid notice which was submitted by the Florida Lime Administrative Committee (established pursuant to the said amended marketing agreement and order as the agency to administer the provisions thereof), it is hereby found that the amendment, as hereinafter set forth, of the rules and regulations (Subpart—Rules and Regulations), pursuant to said amended marketing agreement and order is in accordance with the provisions of said amended marketing agreement and order and will tend to effectuate the declared policy of the act. Therefore, Subpart—Rules and Regulations of the said amended marketing agreement and order is hereby amended to add a new § 911.150 to read as follows:

§ 911.150 Reports.

Each handler shall furnish the Federal-State Inspection Service, for the inspector's notation on the certificate, or the committee office for inclusion in its weekly report, the date and quantities of limes handled and the destination of each shipment by market region. To facilitate such reports, the committee shall prescribe market regions to be used by all handlers in reporting disposition of limes to inspectors. The committee shall furnish handlers and the Federal-State Inspection Service a list of market regions to be used in reporting such disposition.

(Secs. 1–19, 48 Stat. 31, as amended; 7 U.S.C. 601–674.)

Dated: September 22, 1976, to become effective October 30, 1976.

CHARLES R. BRADER,
Deputy Director, Fruit and Vegetable Division, Agricultural Marketing Service.

[FR Doc.76-28227 Filed 9-24-76;8:45 am]

PART 915—AVOCADOS GROWN IN SOUTH FLORIDA

Reports

This amendment adds a new paragraph to the Reports section of the Rules and Regulations currently in effect pursuant to Marketing Order No. 915. The new reporting provisions require each handler to furnish the Federal-State Inspection Service or the Avocado Administrative Committee the date and quantities of avocados handled and the destination of each shipment by market region.

Notice was published in the FEDERAL REGISTER issue on September 8, 1976, (41 FR 37813), that the Department was giving consideration to a proposal to amend the rules and regulations (Subpart—Rules and Regulations; 7 CFR 915.110–915.155) under provisions of the marketing agreement, as amended, and Order No. 915, as amended (7 CFR Part 915), regulating the handling of Avocados grown in South Florida, effective under the applicable provisions of the Agricultural Marketing Agreement Act of 1937, as amended (7 U.S.C. 601–674). No comments regarding the proposal were received.

The market destination information on avocado shipments, required to be reported, will enable the committee to more effectively perform its duties under the order. The committee will compile and report this data in order to determine the overall distribution pattern of fresh avocado shipments. It will be used to indicate areas where there is potential for marketing more avocados and in formulating market development, promotion and advertising activities designed to increase sales in such markets.

After consideration of all relevant matters presented, including that in the aforesaid notice which was submitted by the Avocado Administrative Committee (established pursuant to the said amended marketing agreement and order as the agency to administer the provisions thereof), it is hereby found that the amendment, as hereinafter set forth, of the rules and regulations (Subpart—Rules and Regulations), pursuant to said amended marketing agreement and order is in accordance with the provisions of said amended marketing agreement and order and will tend to effectuate the declared policy of the act. Therefore, Subpart—Rules and Regulations of the said amended marketing agreement and order is hereby amended by adding a new paragraph (d) in § 915.150 Reports, so that after such amendment such section reads as follows:

§ 915.150 Reports.

* * * * *

(d) Each handler shall furnish the Federal-State Inspection Service, for the inspector's notation on the certificate, or the committee office for inclusion in its weekly report, the date and quantities of avocados handled and the destination of each shipment by market region. To facilitate such reports, the committee shall prescribe market regions to be used shall furnish handlers and the Federal-avocados to inspectors. The committee shall furnish handlers an dthe Federal-State Inspection Service a list of market regions to be used in reporting such disposition.

(Secs. 1–19, 48 Stat. 31, as amended; 7 U.S.C. 601–674)

Dated: September 22, 1976, to become effective October 30, 1976.

CHARLES R. BRADER,
Deputy Director, Fruit and Vegetable Division, Agricultural Marketing Service.

[FR Doc.76-28226 Filed 9-24-76;8:45 am]

[Tokay Grape Reg. 12, Amdt. 1]

PART 926—TOKAY GRAPES GROWN IN SAN JOAQUIN COUNTY, CALIFORNIA

Grade and Container Markings

This amendment, issued under the amended marketing agreement and Order No. 926, as amended (7 CFR Part 926), changes the expiration date of Tokay Grape Regulation 12 from September 30 to December 31, 1976. That regulation became effective on August 15, 1976, and its other provisions are unchanged. Those provisions specify that all shipments of fresh Tokay grapes, grown in the production area, shall meet at least the grade and size requirements for U.S. No. 1 Table Grapes. An additional requirement is that at least 30 percent of the berries in the lower quarter of each bunch show characteristic color. One outside end of all containers of regulated grapes must be stamped with a lot number which verifies inspection by the Federal-State Inspection Service for compliance purposes.

Tokay Grape Regulation 12 was published in the Federal Register on August 12, 1976 (§ 926.313; 41 FR 34007), and is effective under the amended marketing agreement and order which regulate the handling of fresh Tokay grapes grown in San Joaquin County, California. The program is effective under the Agricultural Marketing Agreement Act of 1937, is amended (7 U.S.C. 601–674).

The amendment was recommended by the Industry Committee established under the marketing agreement and order. The action is necessary to assure that the fresh Tokay grapes shipped will continue to be of suitable quality and size in the interest of consumer and producers.

Notice was published in the Federal Register issue of August 26, 1976 (41 FR 36035), that the Department was giving consideration to a proposal to amend § 926.313 by changing the expiration date thereof from September 30 to December 31, 1976. The notice invited interested persons to submit written data, views, or arguments on the proposal not later than September 10, 1976. No such material was submitted.

After consideration of all relevant matter presented, including the proposal set forth in the aforesaid notice, the recommendations and information submitted by the Industry Committee, and other available information, it is found that the limitation of handling of such grapes, as hereinafter provided, will tend to effectuate the declared policy of the act.

It is further found that good cause exists for not postponing the effective date of this amendment until 30 days after publication in the Federal Register (5 U.S.C. 553) in that: (1) Shipments of such grapes are in progress and are expected to continue on and after the expiration date of the existing regulation and such regulation should be applicable to all shipments made during the season in order to effectuate the declared policy of the act; (2) the amendment is the same as that specified in the notice to which no exceptions were filed; (3) the regulatory requirements are the same as those currently in effect; (4) compliance with this amended regulation will not require any special preparation on the part of the persons subject thereto which cannot be completed by the effective time hereof; and (5) this regulation, as amended, was recommended by the Industry Committee members in an open meeting at which all interested persons were afforded an opportunity to submit their views.

Order. Section 926.313 is amended to read as follows:

§ 926.313 Tokay Grape Regulation 12.

Order. (a) During the period August 15, 1976, through December 31, 1976, no handler shall ship:

(1) Any Tokay grapes, grown in the production area, which do not meet the grade and size specifications of U.S. No. 1 Table Grapes and the following additional requirement: Of the 25 percent, by count, of the berries of each bunch which are attached to the lower part of the main stem, including laterals, at least 30 percent, by count, shall show characteristic color; and

(2) Any container of Tokay grapes grown in the production area, unless such container bears, in plain letters and figures on one outside end, a Federal-State Inspection Service lot stamp number showing that such grapes have been inspected in accordance with the established grade set forth in this section.

(b) *Definitions*. As used herein, the term "handler", "ship", and "production area" shall have the same meaning as when used in the amended marketing agreement and order; "U.S. No. 1 Table Grapes" and "Characteristic color" shall have the same meaning as when used in the United States Standard for Tables Grapes (7 CFR 51.880–51.912).

(Secs. 1–19, 48 Stat. 31, as amended, 7 U.S.C. 601–674.)

Dated: September 22, 1976.

Charles R. Brader,
Deputy Director, Fruit and Vegetable Division, Agricultural Marketing Service.

[FR Doc.76-28225 Filed 9-24-76;8:45 am]

PART 932—OLIVES GROWN IN CALIFORNIA

Expenses and Rate of Assessment for FY 1976–77

This document authorizes Olive Administrative Committee expenses of $891,000 and an assessment rate of $14.00 per ton of regulated California olives to support committee activities during the 1976–77 fiscal year under marketing Order No. 932.

A notice of rulemaking on this matter was published in the Federal Register (41 FR 35722) on August 24, 1976, in which expenses of $876,000 and an assessment rate of $14.00 per ton of assessable olives was proposed. On September 1, 1976, a notice of rulemaking was published in the Federal Register (41 FR 36821) to amend the original proposal so as to recommend expenses of $891,000 (no change in the $14.00 per ton assessment rate was proposed). The notices afforded interested persons opportunity to submit written data, views, or arguments on the proposals. None were received.

This action is taken under the marketing agreement, as amended, and Order No. 932, as amended (7 CFR Part 932), regulating the handling of olives grown in California. This regulatory program is effective under the Agricultural Marketing Agreement Act of 1937, as amended (7 U.S.C. 601–674).

After consideration of all relevant matter presented, including that in the notices, the information and recommendations submitted by the Olive Administrative Committee (established under the marketing agreement and Order No. 932), it is found and determined that:

§ 932.211 Expenses and rate of assessment.

(a) *Expenses*. Expenses that are reasonable and likely to be incurred by the Olive Administrative Committee during the period September 1, 1976, through August 31, 1977, will amount to $891,000.

(b) *Rate of assessment*. The rate of assessment for that period, payable by each first handler in accordance with § 932.39, is fixed at $14.00 per ton of olives.

(c) *Terms*. Terms used in the amended marketing agreement and order shall, when used herein, have the same meaning as is given to the respective term in said amended marketing agreement and order.

It is further found that good cause exists for not postponing the effective date of this action until 30 days after publication in the Federal Register (5 U.S.C. 553) in that: (1) The relevant provisions of the marketing agreement and this part require that the rate of assessment fixed for a particular fiscal year shall be applicable to all assessable olives from the beginning of that year; and (2) the current fiscal year began on September 1, 1976, and the rate of assessment herein fixed will automatically apply to all assessable olives beginning with that date.

(Secs. 1–19, 48 Stat. 31, as amended, 7 U.S.C. 601–674.)

Dated: September 22, 1976.

Charles R. Brader,
Deputy Director, Fruit and Vegetable Division, Agricultural Marketing Service.

[FR Doc.76-28228 Filed 9-24-76;8:45 am]

[Grapefruit Reg. 17]

PART 944—FRUITS; IMPORT REGULATIONS

This regulation prescribes minimum grade and size requirements applicable to imported grapefruit as follows: Imported seeded grapefruit—U.S. No. 1 and $3\frac{12}{16}$ inches in diameter; and imported seedless grapefruit—Improved No. 2 and $3\frac{9}{16}$ inches in diameter. These requirements are the same as those applicable to grapefruit produced in Florida and regulated pursuant to Marketing Order No. 905.

This regulation is consistent with Section 8e of the Agricultural Marketing Agreement Act of 1937, as amended (7 U.S.C. 601–674). This section requires that whenever specified commodities, including grapefruit, are regulated under a federal marketing order, imports of that commodity must meet the same or comparable grade, size, quality, or maturity requirements as those in effect for the domestically produced commodity.

This regulation establishes the same grade and size requirements on imported seeded and seedless grapefruit as are effective under Marketing Order No. 905, as amended (7 CFR Part 905), regulating the handling of oranges, grapefruit, tangerines, and tangelos grown in Florida.

It is hereby found that it is impracticable, unnecessary, and contrary to the public interest to give preliminary notice, engage in public rulemaking procedure, and postpone the effective time of this regulation beyond that herein specified (5 U.S.C. 553) in that: (a) The requirements of this import regulation are imposed pursuant to section 8e of the Agricultural Marketing Agreement Act of 1937, as amended (7 U.S.C. 601-674), which makes such regulation mandatory; (b) This regulation fixes the same requirements on imports of seeded and seedless grapefruit as are applicable under Grapefruit Regulation 77 (§ 905.565); (c) Notice hereof in excess of three days, the minimum that is prescribed by said section 8e, is given with respect to this import regulation; and (d) Such notice is hereby determined, under the circumstances, to be reasonable.

§ 944.113 **Grapefruit Regulation 17.**

(a) During the period September 27, 1976, through November 14, 1976, the importation into the United States of any grapefruit is prohibited unless such grapefruit is inspected and meets the following requirements:

(1) Seeded grapefruit shall grade at least U.S. No. 1 and be of a size not smaller than $3\frac{12}{16}$ inches in diameter, except that a tolerance for seeded grapefruit smaller than such minimum diameter shall be permitted, which tolerance shall be applied in accordance with the provisions for the application of tolerances specified in § 51.761 of the United States Standards for Grades of Florida Grapefruit; and

(2) Seedless grapefruit shall grade at least Improved No. 2 and be of a size not smaller than $3\frac{9}{16}$ inches in diameter, except that a tolerance for seedless grapefruit smaller than such minimum diameter shall be permitted, which tolerance shall be applied in accordance with the provisions for the application of tolerances specified in § 51.761 of the United States Standards for Grades of Florida Grapefruit. ("Improved No. 2" shall mean grapefruit grading at least U.S. No. 2 and also meeting the requirements of the U.S. No. 1 grade as to shape (form) and color.)

(b) The Federal or Federal-State Inspection Service, Fruit and Vegetable Division, Agricultural Marketing Service, United States Department of Agriculture, is hereby designated as the governmental inspection service for the purpose of certifying the grade, size, quality, and maturity of grapefruit that are imported into the United States. Inspection by the Federal or Federal-State Inspection Service with appropriate evidence thereof in the form of an official inspection certificate, issued by the respective service, applicable to the particular shipment of grapefruit, is required on all imports of grapefruit. Such inspection and certification services will be available upon application in accordance with the rules and regulations governing inspection and certification of fresh fruits, vegetables, and other products (7 CFR Part 51) but, since inspectors are not located in the immediate vicinity of some of the small ports of entry, such as those in southern California, importers of grapefruit should make arrangements for inspection, through the applicable one of the following offices, at least the specified number of days prior to the time when the grapefruit will be imported:

Ports	Office	Advance notice (days)
All Texas points	Leo M. Denbo, P.O. Box 107, San Juan, Tex. 78589 (phone, 512-787-4091) or Charles Parrigon, 724 East Overland, El Paso, Tex. 79905 (phone, 915-543-7723).	1
All New York points	Carmine J. Cavallo, room 28A, Hunts Point Market, Bronx, N.Y. 10474 (phone, 212-991-7668 and 7669) or Charles D. Renick, 176 Niagara Frontier Food Terminal, room 8, Buffalo, N.Y. 14206 (phone, 716-824-1585).	1
All Arizona points	B. O. Morgan, P.O. Box 1614, Nogales, Ariz. 85621 (phone, 602-287-2902).	1
All Florida points	Bennie C. Tiner, 1350 Northwest 12th Ave., room 530, Miami, Fla. 33136 (phone, 305-324-6116) or Cecil B. Brantley, P.O. Box 1232, Winter Haven, Fla. 33880 (phone, 813-294-2089) or Bobby E. Stafford, unit 46, 3335 North Edgewood Ave., Jacksonville, Fla. 32205 (phone, 904-354-5983).	1
All California points	Daniel P. Thompson, 784 South Central Ave., room 266, Los Angeles, Calif. 90021 (phone, 213-688-2489).	3
All Louisiana points	Leonard E. Mixon, 5027 Federal Office Bldg., 701 Loyola Ave., New Orleans, La. 70113 (phone, 504-589-6741).	1
All other points	Michael A. Castille, Fruit & Vegetable Division, AMS-USDA, Washington, D.C. 20250 (phone, 202-447-5870).	3

(c) Inspection certificates shall cover only the quantity of grapefruit that is being imported at a particular port of entry by a particular importer.

(d) The inspection performed, and certificates issued, by the Federal or Federal-State Inspection Service shall be in accordance with the rules and regulations of the Department governing the inspection and certification of fresh fruits, vegetables, and other products (7 CFR Part 51). The cost of any inspection and certification shall be borne by the applicant therefor.

(e) Each inspection certificate issued with respect to any grapefruit to be imported into the United States shall set forth, among other things:

(1) The date and place of inspection;

(2) The name of the shipper, or applicant;

(3) The commodity inspected;

(4) The quantity of the commodity covered by the certificate;

(5) The principal identifying marks on the container;

(6) The railroad car initials and number, the truck and the trailer license number, the name of the vessel, or other identification of the shipment; and

(7) The following statement if the facts warrant: Meets U.S. import requirements under section 8e of the Agricultural Marketing Agreement Act of 1937, as amended.

(f) Notwithstanding any other provisions of this regulation, any importation of grapefruit which, in the aggregate, does not exceed five standard nailed boxes, or equivalent quantity, may be imported without regard to the restrictions specified herein.

(g) It is hereby determined that imports of grapefruit, during the effective time of this regulation, are in most direct competition with grapefruit grown in the State of Florida. The requirements set forth in this section are the same as those being made effective for grapefruit grown in Florida.

(h) No provisions of this section shall supersede the restrictions or prohibitions on grapefruit under the Plant Quarantine Act of 1912.

(i) Nothing contained in this regulation shall be deemed to preclude any importer from reconditioning prior to importation any shipment of grapefruit for the purpose of making it eligible for importation.

(j) The terms used herein relating to grade, except Improved No. 2 grade, and diameter shall have the same meaning as when used in the United States Standards for Grades of Florida Grapefruit (7 CFR 51.750-51.784). Improved No. 2 shall have the same meaning as set forth in the marketing agreement, as amended, and Order No. 905, as amended (7 CFR Part 905). Importation means release from custody of the United States Customs Service.

(Secs. 1-19, 48 Stat. 31, as amended; 7 U.S.C. 601-674.)

Dated: September 21, 1976, to become effective September 27, 1976.

CHARLES R. BRADER,
Deputy Director, Fruit and Vegetable Division, Agricultural Marketing Service.

[FR Doc.76-28095 Filed 9-24-76;8:45 am]

PART 948—IRISH POTATOES GROWN IN COLORADO

PART 980—VEGETABLES: IMPORT REGULATIONS

Handling Regulation—Area No. 2

This regulation, designed to promote orderly marketing of Colorado Area No. 2 potatoes, imposes minimum quality standards and requires inspection of fresh shipments to keep lower quality potatoes from being shipped to consumers.

Notice of rulemaking with respect to a proposed handling regulation to be made effective under Marketing Agreement No. 97 and Order No. 948, both as amended (7 CFR Part 948), regulating the handling of Irish potatoes grown in Colorado, Area No. 2, was published in the FEDERAL REGISTER September 1, 1976 (41 FR 36821). This program is effective under the Agricultural Marketing Agreement Act of 1937, as amended (7 U.S.C. 601 et seq.). Interested persons were afforded an opportunity to file written data, views, or arguments pertaining thereto through September 16, 1976. None was filed.

The recommendations of the committee reflect its appraisal of the composition of the 1976 crop of Colorado potatoes and of the marketing prospects for this season. The requirements this year are U.S. No. 2 or better grade with a minimum diameter of 2 inches for round varieties, 1⅞ inches for long varieties and 1½ inches for export. Size B may be shipped if U.S. No. 1 or better grade. Maturity requirements are not more than "moderately skinned" for all varieties, except that for the Russet Burbank and Red McClure varieties, any grade better than U.S. No. 2 must be no more than "slightly skinned." These maturity requirements terminate on October 31. These requirements, similar to those which were in effect (40 FR 45794) through June 30, 1976, are necessary to prevent potatoes of lesser maturities, lower quality, or undesirable sizes from being distributed in fresh market channels. Also, they will provide consumers with good quality potatoes consistent with the overall quality of the crop and standardize the quality of potatoes shipped from the production area in order to provide the consumer with a more acceptable product.

Exceptions are provided to certain of these requirements to recognize special situations in which such requirements would be inappropriate or unreasonable. Shipments may be made to certain special purpose outlets without regard to the grade, size, maturity and inspection requirements, provided that safeguards are met to prevent such potatoes from reaching unauthorized outlets. Seed is so exempted because requirements for this outlet differ greatly from those for fresh market. Shipments for use as livestock feed are likewise exempt. Since no purpose would be served by regulating potatoes used for charity purposes, such shipments are exempt. Also potatoes for most processing uses are exempt under the legislative authority for this part.

After consideration of all relevant matters presented, including the proposal set forth in the notice which was recommended by the Colorado Area No. 2 Potato Committee, established pursuant to said marketing agreement and order, it is hereby found that the handling regulation, as hereinafter set forth, will tend to effectuate the declared policy of the act.

It is hereby further found that good cause exists for not postponing the effective date of this section until 30 days after its publication in the FEDERAL REGISTER (5 U.S.C. 553) in that: (1) Shipments of potatoes grown in the production area will begin on or about the effective date specified herein, (2) to maximize benefits to producers, this regulation should apply to as many shipments as possible during the marketing season, (3) information regarding the provisions of this regulation, which are similar to those which were in effect during the previous marketing season, has been made available to producers and handlers in the production area, and (4) compliance with this regulation will not require any special preparation on the part of persons subject thereto which cannot be completed by such effective date.

The regulation is as follows:

§ 948.376 Handling regulation.

During the period September 27, 1976, through June 30, 1977, no person shall handle any lot of potatoes grown in Area No. 2 unless such potatoes meet the requirements of paragraphs (a), (b), and (c) of this section, or unless such potatoes are handled in accordance with paragraphs (d), (e), or (f) of this section. The maturity requirements specified in paragraph (b) of this section shall terminate October 31, 1976, at 11:59 p.m. M.S.T.

(a) *Minimum grade and size requirements.*—(1) *Round varieties.* U.S. No. 2, or better grade, 2 inches minimum diameter.

(2) *Long varieties.* U.S. No. 2, or better grade, 1⅞ inches minimum diameter.

(3) *All varieties.* Size B, if U.S. No. 1, or better grade.

(4) *All varieties for export.* 1½ inches minimum diameter.

(b) *Maturity (skinning) requirements.*—(1) *Russet Burbank and Red McClure varieties.* For U.S. No. 2 grade not more than "moderately skinned" and for other grades not more than "slightly skinned."

(2) *All other varieties.* Not more than "moderately skinned."

(c) *Inspection.*—(1) No handler shall handle any potatoes for which inspection is required unless an appropriate inspection certificate has been issued with respect thereto and the certificate is valid at the time of shipment. For purposes of operation under this part it is hereby determined pursuant to paragraph (d) of § 948.40, that each inspection certificate shall be valid for a period not to exceed 5 days following the date of inspection as shown on the inspection certificate.

(2) No handler may transport or cause the transportation by motor vehicle of any shipment of potatoes for which an inspection certificate is required unless each shipment is accompanied by a copy of the inspection certificate applicable thereto and the copy is made available for examination at any time upon request.

(d) *Special purpose shipments.*—(1) The grade, size, maturity and inspection requirements of paragraphs (a), (b) and (c) of this section and the assessment requirements of this part shall not be applicable to shipments of potatoes for:

(i) Livestock feed;

(ii) Relief or charity; or

(iii) Canning, freezing, and "other processing" as hereinafter defined.

(2) The grade, size, maturity and inspection requirements of paragraphs (a), (b) and (c) of this section shall not be applicable to shipments of seed pursuant to § 948.6 but such shipments shall be subject to assessments.

(e) *Safeguards.*—Each handler of potatoes which do not meet the grade, size, and maturity requirements of paragraphs (a) and (b) of this section and which are handled pursuant to paragraph (d) for any of the special purposes set forth therein shall: (1) Prior to handling, apply for and obtain a Certificate of Privilege from the committee;

(2) Furnish the committee such reports and documents as requested, including certification by the buyer or receiver as to the use of such potatoes; and

(3) Bill each shipment directly to the applicable processor or receiver.

(f) *Minimum quantity.*—For purposes of regulation under this part, each person may handle up to but not to exceed 1,000 pounds of potatoes without regard to the requirements of paragraphs (a), (b), and (c) of this section, but this exception shall not apply to any shipment which exceeds 1,000 pounds of potatoes.

(g) *Definitions.*—The terms "U.S. No. 1," "U.S. No. 2," "Size B," "slightly skinned," "moderately skinned" shall have the same meaning as when used in the U.S. Standards for Potatoes (§§ 51.1540–51.1566 of this title), including the tolerances set forth therein. The term "other processing" has the same meaning as the term appearing in the act and includes, but is not restricted to, potatoes for dehydration, chips, shoestrings, starch, and flour. It includes only that preparation of potatoes for market which involves the application of heat or cold to such an extent that the natural form or stability of the commodity undergoes a substantial change. The act of peeling, cooling, slicing, dicing, or applying material to prevent oxidation does not constitute "other processing." Other terms used in this section shall have the same meaning as when used in Marketing Agreement No. 97, as amended, and this part.

(h) *Applicability to imports.*—Pursuant to § 8e of the Act and § 980.1, Import regulations (7 CFR 980.1), Irish potatoes of the red skinned round type, except certified seed potatoes, imported into the United States during the period September 27, 1976, through June 30, 1977, shall meet the grade, size, and quality requirements specified in paragraph (a) of this section, and during the period September 27 through October 31, 1976, shall be not more than "moderately skinned."

(Secs. 1–19, 48 Stat. 31, as amended; 7 U.S.C. 601–674.)

Dated: September 22, 1976, to become effective September 27, 1976.

CHARLES R. BRADER,
Deputy Director, Fruit and Vegetable Division, Agricultural Marketing Service.

[FR Doc.76-28166 Filed 9-24-76;8:45 am]

PART 953—IRISH POTATOES GROWN IN SOUTHEASTERN STATES

Change in Fiscal Period

This document changes the fiscal period of the Southeastern Potato Committee to begin June 1 rather than April 1.

Notice of rulemaking was published in the August 17, 1976, FEDERAL REGISTER (41 FR 34766) regarding the proposed change in fiscal period to be effective under Marketing Agreement No. 104 and Order No. 953, both as amended (7 CFR Part 953). This program regulates the handling of potatoes grown in designated counties in North Carolina and Virginia and is effective under the Agricultural Marketing Agreement Act of 1937, as amended (7 U.S.C. 601 et seq.). The notice afforded interested persons an opportunity to file written comments not later than September 10, 1976. None was filed.

Statement of consideration. The fiscal period presently begins on April 1 of each year. However, the committee does not customarily hold its organizational meeting to recommend regulations until early April, and final regulations are usually not published before late May. During this two-month period the committee may incur some financial obligations. Since shipments from the production area usually begin in early June, this change would result in the fiscal period more closely conforming to actual operations under the order, thus improving the functioning of the committee and the administration of the order.

After consideration of all relevant matters, including the proposal set forth in the notice, it is hereby found and determined that the fiscal period of the Southeastern Potato Committee be changed, and that such action will tend to effectuate the declared policy of the act.

The revision is as follows; § 953.122 is hereby revised to read as follows:

§ 953.122 Fiscal period.

The fiscal period, pursuant to § 953.9, which began on April 1, 1976, shall end on May 31, 1977. Thereafter, each fiscal period shall begin on June 1 of each year and end on May 31 of the following year, both dates inclusive.

Dated: September 22, 1976.

CHARLES R. BRADER,
Deputy Director, Fruit and Vegetable Division, Agricultural Marketing Service.

[FR Doc.76-28229 Filed 9-24-76;8:45 am]

Title 14—Aeronautics and Space

CHAPTER I—FEDERAL AVIATION ADMINISTRATION, DEPARTMENT OF TRANSPORTATION

[Docket No. 76-EA-46; Amdt. 39-2732]

PART 39—AIRWORTHINESS DIRECTIVES

Leigh Systems

The Federal Aviation Administration is amending § 39.13 of Part 39 of the Federal Aviation Regulations so as to amend AD-74-20-10 applicable to Leigh Systems ELT Sharc 7 Series.

There have been reports that ELTs which had been excepted from AD 74-20-10 because they had been subjected to a different processing were also developing corrosion problems. Since this problem was the basis for AD 74-20-10 it is necessary that all ELTs so excepted now be subject to inspection.

Since this deficiency can exist or occur in ELTs similarly processed, AD 74-20-10 is being amended to cover all ELTs S/N all thru 149999.

In view of the foregoing and because the deficiency is one which affects air safety, notice and public procedure hereon are impractical and good cause exists for making the amendment effective in less than 30 days.

In consideration of the foregoing and pursuant to the authority delegated to me by the Administrator (14 CFR 11.89 (31 FR 13697)) § 39.13 of Part 39 of the Federal Aviation Regulations is amended by amending AD-74-20-10 as follows:

Leigh Systems: Amend the applicability provision to AD 74-20-10 to read as follows: "Emergency Locator Transmitter Leigh Systems Sharc 7 Series. Applies to all Leigh Systems Sharc 7 Emergency Locator Transmitters. Serial Numbers all thru 149999, equipped with lithium batteries."

(Secs. 313(a), 601 and 603 of the Federal Aviation Act of 1958 (49 U.S.C. 1354(a), 1421 and 1423), and sec. 6(c) of the Department of Transportation Act (49 U.S.C. 1655(c)).)

This amendment is effective September 29, 1976.

Issued in Jamaica, N.Y., on September 15, 1976.

WILLIAM E. MORGAN,
Director, Eastern Region.

[FR Doc.76-27965 Filed 9-24-76;8:45 am]

[Docket No. 76-EA-50; Amdt. 39-2733]

PART 39—AIRWORTHINESS DIRECTIVES

Piper Aircraft

The Federal Aviation Administration is amending § 39.13 of Part 39 of the Federal Aviation Regulations so as to issue an airworthiness directive applicable to Piper PA-24 type airplanes.

There have been test reports which indicate that cracks have developed in the stabilator balance weight tube in the corners of the cutout. As a result, Piper has redesigned the cutout and its installation is essential to prevent cracks.

Since this is a deficiency which can exist or develop in airplanes of similar type design with Piper Kit No. 760 747 Stabilator Modification installed, an airworthiness directive is being issued which will require that the new cutout be installed.

In view of the foregoing and because the deficiency is one which affects air safety, notice and public procedure hereon are impractical and good cause exists for making the amendment effective in less than 30 days.

In consideration of the foregoing and pursuant to the authority delegated to me by the Administrator (14 CFR 11.89 (31 FR 13697)) § 39.13 of Part 39 of the Federal Aviation Regulations is amended by issuing a new airworthiness directive as follows:

PIPER: Applies to Piper Models PA-24-250, Serial Nos. 24-1, 24-103 through 24-3641, and 24-3643 through 24-3687 and PA-24-260, Serial Nos. 24-3642, 24-4000 through 24-5047 certificated in all categories with Piper Kit Number 760 747 Stabilator Modification installed.

To prevent possible hazards in flight associated with cracks occurring in the corners of the balance weight cutout of the stabilator balance weight tube assembly, accomplish the following within the next one hundred hours in service from the effective date of this AD unless previously accomplished.

a. Replace the stabilator balance weight tube assembly in accordance with the directions contained in the "Instructions" section of Piper Service Bulletin Number 496 or approved equivalent replacement.

b. Equivalent replacement must be approved by the Chief, Engineering and Manufacturing Branch, FAA, Eastern Region.

(Secs. 313(a), 601 and 603 of the Federal Aviation Act of 1958 (49 U.S.C. 1354(a), 1421 and 1423), and section 6(c) of the Department of Transportation Act (49 U.S.C. 1655 (c)).)

This amendment is effective September 29, 1976.

Issued in Jamaica, N.Y., on September 15, 1976.

WILLIAM E. MORGAN,
Director, Eastern Region.

[FR Doc.76-27966 Filed 9-24-76;8:45 am]

Title 19—Customs Duties

CHAPTER I—UNITED STATES CUSTOMS SERVICE, DEPARTMENT OF THE TREASURY

PART 159—LIQUIDATION OF DUTIES

Footwear From Taiwan and the Republic of Korea; Countervailing Duties; Final Determination; Amendments of Final Determination and Waiver

Correction

1. FR Doc. 76-323 which appeared at page 1298 in the issue for Wednesday, January 7, 1976, was incorrectly published in the "Notices" section of the FEDERAL REGISTER. It should have appeared in the "Rules and Regulations" section of that issue.

2. FR Doc. 76-323 was amended by FR Doc. 76-18386 which appeared at page 26035 in the issue for Thursday, June 24, 1976. This amendment was also incorrectly published in the "Notices" section of the FEDERAL REGISTER. It should have appeared in the "Rules and Regulations" section of that issue.

3. FR Docs. 76-18384 and 76-18385 which appeared at page 26035 in the issue for Thursday, June 24, 1976, were also incorrectly published in the "Notices" section of the FEDERAL REGISTER. They should have appeared in the "Rules and Regulations" section of that issue. FR Doc. 76-18384 amended Treasury Decision (T.D.) 76-13, and FR Doc. 76-18385 amended Treasury Decision (T.D.) 76-14.

Title 24—Housing and Urban Development

CHAPTER II—OFFICE OF ASSISTANT SECRETARY FOR HOUSING—FEDERAL HOUSING COMMISSIONER (FEDERAL HOUSING ADMINISTRATION), DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

[Docket No. R–76–411]

PART 200—INTRODUCTION

Subpart L—Correction of Structural Defects in Homes Covered by Mortgage Insurance Under Section 203, 221, or 235

DEADLINE FOR FILING ASSISTANCE APPLICATIONS

The Department hereby amends Chapter II of Title 24 of the Code of Federal Regulations by amending §§ 200.517, 200.520 and 200.522.

These changes are necessary to comply with amendments to Section 518 of the National Housing Act made by the Housing Authorization Act of 1976. These amendments extended to December 3, 1976, the deadline for filing applications for assistance for the correction of structural defects in dwellings located in older, declining urban areas and covered by a mortgage issued under Section 203 or 221 of the National Housing Act on or after August 1, 1968, but prior to January 1, 1973. In addition, these amendments authorized such assistance with respect to dwellings located in older, declining urban areas and covered by a mortgage issued under Section 203 or 221 of the Act on or after January 1, 1973, but prior to August 3, 1976, with an application deadline of August 3, 1977. The Secretary has determined that because these changes are necessary to carry out the Housing Authorization Act of 1976 and because of the relatively short time period allowed for filing an application for assistance, it is in the public interest to make this amendment at the earliest possible date and that it is impracticable and contrary to the public interest to engage in public rulemaking which would postpone the effective date. The Secretary, therefore, has determined that advance notice and publication are unnecessary and that cause exists for making this amendment effective upon publication.

The Department has determined that an Environmental Impact Statement is not required with respect to this rule. A copy of the Finding of Inapplicability is available for inspection at Room 10141, Office of the Secretary, Department of Housing and Urban Development, 451 Seventh Street, SW., Washington, D.C.

It is hereby certified that the economic and inflationary impacts of this proposed regulation have been carefully evaluated in accordance with OMB Circular A–107.

Accordingly §§ 200.517, 200.520 and 200.522 in Part 200 of Chapter II of Title 24 are amended as follows:

§ 200.517 [Amended]

1. Section 200.517 is amended by striking "section 518(b)" and inserting in lieu, thereof, "Sections 518(b) and 518(d)."

2. Section 200.520 is revised to read as follows:

§ 200.520 Application for assistance.

An application for assistance in the correction of defects, in a form satisfactory to the Secretary, shall be filed by or on behalf of an eligible mortgagor with the Area or Insuring Office Director having jurisdiction over the area in which the property is located.

(a) In the case of a dwelling covered by a mortgage insured under Section 235 of the National Housing Act, the application shall be filed not later than one year after the insurance of the mortgage.

(b) In the case of a dwelling located in an older declining urban area and covered by a mortgage insured under Section 203 or 221 of the National Housing Act on or after August 1, 1968, but prior to January 1, 1973, the application shall be filed not later than December 3, 1976.

(c) In the case of a dwelling located in an older declining urban area and covered by a mortgage insured under Section 203 or 221 of the National Housing Act on or after January 1, 1973, but prior to August 3, 1976, the application shall be filed not later than August 3, 1977.

3. Section 200.522 is revised to read as follows:

§ 200.522 Eligibility for consideration.

The Secretary will consider a mortgagor eligible for assistance under this subpart if the Secretary finds that each of the following requirements is fulfilled:

(a) The person applying for assistance is the owner and mortgagor of a one or two family dwelling covered by a mortgage insured under Section 235 of the National Housing Act pursuant to a mortgage insurance commitment issued when such dwelling was more than 1 year old; or, in the case of a dwelling located in an older, declining urban area, the applicant is the owner and mortgagor of a one, two, three or four family dwelling covered by a mortgage insured under Section 203 or 221 of the National Housing Act on or after August 1, 1968, but prior to August 3, 1976, pursuant to a mortgage insurance commitment issued when such dwelling was more than 1 year old.

(b) One or more structural or other defects existed in such dwelling on the date of the issuance of the mortgage insurance commitment which: (1) So seriously affect use and livability as to create a serious danger to the life or safety of the inhabitants of such dwelling, and (2) were of such a nature that a proper inspection could reasonably be expected to have disclosed them; and

(c) The application for assistance was filed in accordance with the provisions of this subpart.

(Sec. 7(d) of Department of HUD Act, (42 U.S.C. 3535(d)).)

Effective Date. This regulation shall be deemed effective on September 27, 1976.

JAMES L. YOUNG,
Assistant Secretary for Housing,
Federal Housing Commissioner.

[FR Doc.76–28206 Filed 9–24–76;8:45 am]

[Docket No. R–76–398]

PART 275—LOW RENT PUBLIC HOUSING

Prototype Cost Limits; Minnesota, Wisconsin and Michigan

In the FEDERAL REGISTER issued June 9, 1976 (41 FR 23302), prototype per unit cost schedules were published pursuant to Section 6(b) of the United States Housing Act of 1937. Consideration of subsequent factual project cost data and other information received from the St. Paul, Minnesota, Milwaukee, Wisconsin and Detroit, Michigan Area Offices indicates that new prototype cost areas should be established.

Written data, views or statements should be filed with the Director, Office of Underwriting Standards, HUD Central Office, 451 7th Street, SW., Room 6156, Washington, D.C. 20410, and a copy should be sent to the local HUD Area Office. The Offices were listed in our publication of June 9, 1976.

Accordingly, 24 CFR Part 275 is amended as follows:

1. Following Page 23332, add a new prototype per unit cost schedule for Manistique, Michigan, shown on the table set forth hereinafter entitled prototype per unit cost schedule—Region V.

2. Following Page 23334, add two new prototype per unit cost schedules for Redlake, Minnesota and Cass-Lake, Minnesota, shown on the table set forth hereinafter entitled prototype per unit cost schedule—Region V.

3. Following Wausau, Wisconsin, Page 23337, add two new prototype per unit cost schedules for Lac Du Flambeau, Wisconsin and Red Cliff, Wisconsin shown on the table set forth hereinafter entitled prototype per unit cost schedule—Region V, for the corresponding prototype cost areas mentioned above.

(Sec. 7(d) of Dept. of HUD Act, 42 U.S.C. 3535(d).)

Effective date: This amendment is effective on September 27, 1976.

JAMES L. YOUNG,
Assistant Secretary for Housing—
Federal Housing Commissioner.

Prototype per unit cost schedule, region V

	Number of bedrooms						
	0	1	2	3	4	5	6
MICHIGAN							
Manistique:							
Detached and semidetached	$12,400	$15,000	$18,450	$21,950	$26,350	$29,500	$30,700
Row dwellings	11,950	14,350	17,700	21,000	25,300	28,200	29,500
Walk-up	10,700	13,350	16,850	20,000	23,100	25,600	26,650
Elevator structure	16,350	19,100	24,100				
------------:							
Detached and semidetached							
Row dwellings							
Walk-up							
Elevator structure							
------------:							
Detached and semidetached							
Row dwellings							
Walk-up							
Elevator structure							
------------:							
Detached and semidetached							
Row dwellings							
Walk-up							
Elevator structure							
------------:							
Detached and semidetached							
Row dwellings							
Walk-up							
Elevator structure							
MINNESOTA							
Cass Lake:							
Detached and semidetached	16,250	19,600	24,200	28,900	34,700	38,700	40,500
Row dwellings	12,450	14,900	18,400	21,950	26,350	29,400	30,700
Walk-up	10,700	13,250	16,850	19,900	23,000	24,450	26,650
Elevator structure							
------------:							
Detached and semidetached							
Row dwellings							
Walk-up							
Elevator structure							
Red Lake:							
Detached and semidetached	14,550	17,550	21,800	25,950	31,100	34,600	36,200
Row dwellings	11,650	14,050	17,300	20,650	24,750	27,650	28,850
Walk-up	10,150	12,600	16,050	18,950	21,900	24,150	25,350
Elevator structure							
------------:							
Detached and semidetached							
Row dwellings							
Walk-up							
Elevator structure							
------------:							
Detached and semidetached							
Row dwellings							
Walk-up							
Elevator structure							
WISCONSIN							
Lac Du Flambeau:							
Detached and semidetached	15,201	18,357	22,583	27,000	32,424	36,209	37,849
Row dwellings	10,650	12,700	15,650	18,650	22,400	24,950	26,150
Walk-up	10,800	13,400	17,000	20,050	23,250	25,550	26,850
Elevator structure	14,750	17,150	21,700				
------------:							
Detached and semidetached							
Row dwellings							
Walk-up							
Elevator structure							
Redcliff:							
Detached and semidetached	16,273	19,649	24,173	28,900	34,707	38,758	40,514
Row dwellings	11,050	13,200	16,250	19,450	23,400	26,000	27,250
Walk-up	11,200	13,800	17,500	20,700	23,900	26,400	27,700
Elevator structure	14,750	17,150	21,700				
------------:							
Detached and semidetached							
Row dwellings							
Walk-up							
Elevator structure							
------------:							
Detached and semidetached							
Row dwellings							
Walk-up							
Elevator structure							

[FR Doc.76-28135 Filed 9-24-76;8:45 am]

[Docket No. R-76-398]

PART 275—LOW RENT PUBLIC HOUSING

Prototype Cost Limits; New Jersey

In the FEDERAL REGISTER issued June 9, 1976 (41 FR 23302), prototype per unit cost schedules were published pursuant to Section 6(b) of the United States Housing Act of 1937. The prototype cost limits for Camden, New Jersey for elevator structures were not updated, but consideration of subsequent factual project cost data and other information since received from the Camden Area Office indicates that these prototype cost limits should be revised.

Written data, views or statements should be filed with the Director, Office of Underwriting Standards, HUD Central Office, 451 7th Street, SW., Room 6156, Washington, D.C. 20410, and a copy should be sent to the local HUD Area Office. The offices were listed in our publication of June 9, 1976.

Accordingly, 24 CFR Part 275 is amended as follows:

On Page 23308, delete 0-2 bedroom prototype per unit cost schedules for elevator structures for Camden, Atlantic City, Burlington, Glouchester, Trenton and Vineland, New Jersey, and substitute in lieu thereof, the revised prototype per unit cost schedule shown on the table set forth hereinafter entitled prototype per unit cost schedule, Region II, for the corresponding prototype areas mentioned above.

(Sec. 7(d) of Dept. of HUD Act, 42 U.S.C. 3535(d).)

Effective date. This amendment is effective on September 27, 1976.

JAMES L. YOUNG,
Assistant Secretary for Housing,
Federal Housing Commissioner.

Prototype per unit cost schedule, region II

	Number of bedrooms						
	0	1	2	3	4	5	6
NEW JERSEY							
Camden:							
Detached and semidetached							
Row dwellings							
Walk-up							
Elevator structure	$19,855	$23,100	$29,260				
Atlantic City:							
Detached and semidetached							
Row dwellings							
Walk-up							
Elevator structure	18,920	22,000	27,885				
Burlington:							
Detached and semidetached							
Row dwellings							
Walk-up							
Elevator structure	19,910	23,265	29,425				
Gloucester:							
Detached and semidetached							
Row dwellings							
Walk-up							
Elevator structure	19,855	23,100	29,260				
..........:							
Detached and semidetached							
Row dwellings							
Walk-up							
Elevator structure							
Trenton:							
Detached and semidetached							
Row dwellings							
Walk-up							
Elevator structure	21,890	25,355	32,120				
Vineland:							
Detached and semidetached							
Row dwellings							
Walk-up							
Elevator structure	20,515	23,815	30,195				
..........:							
Detached and semidetached							
Row dwellings							
Walk-up							
Elevator structure							
..........:							
Detached and semidetached							
Row dwellings							
Walk-up							
Elevator structure							
..........:							
Detached and semidetached							
Row dwellings							
Walk-up							
Elevator structure							

[FR Doc.76-28134 Filed 9-24-76;8:45 am]

Title 33—Navigation and Navigable Waters

CHAPTER I—COAST GUARD, DEPARTMENT OF TRANSPORTATION

[CGD 3-76-15-R]

PART 127—SECURITY ZONES

Establishment of Security Zone, New London Harbor, New London, Connecticut

This amendment to the Coast Guard's Security Zone Regulations, establishes the waters of New London Harbor, New London, Connecticut as a security zone. This security zone is established due to the launching of the USS GROTON (SSN 694) from the Electric Boat Division, General Dynamics, Groton, Connecticut.

This amendment is issued without publication of a notice of proposed rulemaking because this security zone involves a military function of the United States.

In consideration of the foregoing, Part 127 of Title 33 of the Code of Federal Regulations is amended by adding § 127.349 to read as follows:

§ 127.349 New London Harbor, New London, Connecticut.

The waters within the following boundary is a security zone: a line beginning at 41-20-32N, 72-06-00W; thence north to 41-21-03N, 72-06-00W; thence east to 41-21-03N, 72-05-00W; thence south to 41-20-32N, 72-05-00W; thence to the beginning point.

(46 Stat. 220, as amended, section 1, 63 Stat. 503, section 6(b), 80 Stat. 937; 50 U.S.C. 191, 14 U.S.C. 91, 49 U.S.C. 1655(b); E.O. 10173, E.O. 10277, E.O. 10352, EO 11249; 3 CFR 1949–1953 Comp. 356, 778, 873, 3 CFR, 1964–1965 Comp. 349, 33 CFR Part 6, 49 CFR 1.46(b))

Effective date: This amendment becomes effective from 10:00 a.m. to 1:00 p.m., Eastern Daylight Time on October 9, 1976.

Dated: September 2, 1976.

W. REA, III,
Vice Admiral, U.S. Coast Guard,
Commander, Third Coast Guard District.

[FR Doc.76-28203 Filed 9-24-76;8:45 am]

Title 41—Public Contracts and Property Management

CHAPTER 3—DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

PART 3-16—PROCUREMENT FORMS

Miscellaneous Amendments

On April 11, 1975, a notice of proposed rulemaking was published in the FEDERAL REGISTER (40 FR 16337-16345) stating that the Department of Health, Education, and Welfare is considering an amendment to 41 CFR, Chapter 3, by adding a new § 3-16.950-314, Form HEW 314, General Provisions (Negotiated Fixed-Price Research and Development Contract) under Subpart 316.9, Illustration of Forms.

Interested persons were invited to submit written data, views, and comments within 30 days after publication. One organization submitted two comments. The first concerned having certain subcontracts exempted from the provisions of the "Examination of Records by the Comptroller General" clause. The second requested that the "Interest" clause be eliminated from contracts with educational institutions.

The first comment was not adopted but the second one was. The first comment was not implemented because this Department does not have the authority to amend the "Examination of Records by Comptroller General" clause nor can it redefine the term "subcontract" in order to avoid the application of the aforesaid clause to certain subcontracts. The second comment concerns the inclusion of the "Interest" clause in contracts with educational institutions. Because the clause is an optional clause in the Federal Procurement Regulations, rather than a required clause it is deleted from the final rule. Further changes have been made in the clauses because the Federal Procurement Regulations have now prescribed clauses for use in fixed-price research and development contracts. The "Patent Rights" and "Government Property" clauses were deleted and the ones prescribed by the FPR substituted therefor. Minor wording changes were made in the "Payments," "Changes," and "Interest," clauses in order to have the clauses conform with those set forth in the FPR. Also, the "Standards of Work," "Competition in Subcontracting" and "Clean Air and Water" clauses were added as required by the FPR issuance. The Departmental internal review resulted in minor wording changes in the "Examination of Records by DHEW," "Accounts, Audit, and Records," and "Pricing of Adjustments" clauses. The "Examination of Records by Comptroller General" and "Accounts, Audit, and Records," clauses have been modified to provide that, when the contract is awarded by the Office of Education, the records retention period is consistent with the OE legislative requirements. Legislation concerning the Office of Education provides for this change. Also when the contract is with the Office of Education, the "Rights in Data" will be deleted and the "Copyright and Publication" clause substituted therefor.

These General Provisions are prescribed for use with research and development contracts. This form, with the deletion of Clause 17, "Patent Rights," should also be used in other types of nonpersonal services contracts: e.g., studies, surveys, and demonstrations in socio-economic areas.

(5 U.S.C. 301; 40 U.S.C. 486(c).)

Effective date: The provisions of this amendment shall be effective December 27, 1976.

Date: September 21, 1976.

THOMAS S. MCFEE,
Acting Assistant Secretary for Administration and Management.

Accordingly, the amendment is hereby adopted, subject to the following changes:

1. The section heading is amended as shown below.

2. That part of the first sentence of Clause 3, Payment, reading "* * * invoice(s) or voucher(s) * * *" is changed to read "* * * invoices or vouchers * * *"

3. A note is added to Clause 4, Examination of Records by Comptroller General and is set forth below.

4. Clause 5, Examination of Records by the Department of Health, Education, and Welfare, is amended as shown below.

5. Subparagraphs (d) and (e) of Clause 6, Pricing of Adjustments, are deleted and the following is substituted therefor:

(d) Appendix E to 45 CFR 74.	Hospitals.
(e) Appendix F to 45 CFR 74.	Other nonprofit institutions.

6. The following changes are made in Clause 7, Accounts, Audits, and Records:

a. Paragraph (a) is deleted and the new text is shown below.

b. That part of subparagraph (i) of paragraph (c) reading "* * * resulting settlement," is changed to read "* * * resulting final settlement."

c. A note is added following the text of the clause and reads as shown below.

7. Clause 8, *Changes*, is deleted and the new text is set forth below.

8. Clause 12, Government-Furnished Property, is deleted and the new text entitled Government Property is set forth below.

9. A note has been added after Clause 16, Rights in Data and the new text is set out below.

10. Clause 17, Patent Rights, is deleted and new text is substituted therefor and shown below.

11. Clause 20, Collection of Information by Contractor, is retitled Federal Reports Act and that part of the last sentence reading "* * * beyond the control without the fault * * *" is changed to read "* * * beyond the control and without the fault * * *". The two paragraphs of the clause are designated (a) and (b) respectively and are shown below.

12. Clause 26, Convict Labor, is deleted and the following is substituted therefor:

26. CONVICT LABOR

(Text of this clause is set forth in FPR 1-12.204.)

13. Clause 28, *Convenant Against Contingent Fees*, is deleted and the following is substituted therefor:

28. COVENANT AGAINST CONTINGENT FEES

(Text of this clause is set forth in FPR 1-1.503.)

14. Clause 35, Subcontracting, is deleted and the new text reads as set forth below.

15. Clause 37, Interest, is deleted and Clause 38, Employment of the Handicapped, is redesignated Clause 37.

16. A new Clause 38, Standards of Work, is added as shown below.

17. A new Clause 39, Competition in Subcontracting, is added as shown below.

18. The following is added as Clause 40, Clean Air and Water.

40. CLEAN AIR AND WATER

(Text of this clause is set forth in FPR 1-1.2302-2.)

19. In Subpart 3-16.50, Forms for Negotiated Procurements, § 3-16.5002-4, General Provisions, is revised and reads as set forth below.

§ 3-16.5002-4 General Provisions.

1. The new § 3-16.950-314 will read as follows:

§ 3-16.950-314 Form HEW 314 (9/76), General Provisions (Negotiated Fixed-Price Research and Development contract).

GENERAL PROVISIONS (NEGOTIATED FIXED-PRICE RESEARCH AND DEVELOPMENT CONTRACTS)

1. DEFINITIONS

As used throughout this contract, the following terms shall have the meanings set forth below:

(a) The term "Secretary" means the Secretary, the Under Secretary, or any Assistant Secretary of the Department of Health, Education, and Welfare, or any person, persons, or board authorized to act for the Secretary.

(b) The term "Contracting Officer" means the person executing this contract on behalf of the Government, and any other officer or employee who is properly designated Contracting Officer; and the term includes, except as otherwise provided in this contract, the authorized representative of the Contracting Officer acting within the limits of his authority.

(c) The term "Project Officer" means the person representing the Government for the purpose of monitoring technical performance under this contract. The Project Officer is not authorized to issue any instructions or directions which effect any increase or decrease in the price of this contract or which change the delivery date(s) or period of performance.

(d) The term "Department" means the Department of Health, Education, and Welfare.

(e) Except as otherwise provided in this contract, the term "subcontract" includes purchase orders under this contract.

2. DISPUTES

(a) Except as otherwise provided in this contract, any dispute concerning a question of fact arising under this contract which is not disposed of by agreement shall be decided by the Contracting Officer, who shall reduce his decision to writing and mail or otherwise furnish a copy thereof to the Contractor. The decision of the Contracting Officer shall be final and conclusive unless within 30 days from the date of the receipt of such copy, the Contractor mails or otherwise furnishes to the Contracting Officer a written appeal addressed to the Secretary. The decision of the Secretary or his duly authorized representative for determination of such appeals shall be final and conclusive unless determined by a court of competent jurisdiction to have been fraudulent, or capricious, or so grossly erroneous as necessarily to imply bad faith, or not supported by substantial evidence. In connection with any appeal proceeding under this clause, the Contractor shall be afforded an opportunity to be heard and to offer evidence in support of its appeal. Pending final decision of a dispute hereunder, the Contractor shall proceed diligently with the performance of the contract and in accordance with the Contracting Officer's decision.

(b) This "Disputes" clause does not preclude consideration of law questions in connection with decisions provided for in paragraph (a) above: *Provided*, That, nothing in this contract shall be construed as making final the decision of any administrative official, representative, or board on a question of law.

3. PAYMENT

The Contractor shall be paid, upon submission of proper invoices or vouchers, the prices stipulated herein for work delivered or rendered and accepted, less deductions, if any, as herein provided. Unless otherwise specified, payment will be made upon acceptance of any portion of the work delivered or rendered for which a price is separately stated in the contract.

4. EXAMINATION OF RECORDS BY COMPTROLLER GENERAL

(a) This clause is applicable if the amount of this contract exceeds $2,500 and was entered into by means of negotiation, including small business restricted advertising, but is not applicable if this contract was entered into by means of formal advertising.

(b) The Contractor agrees that the Comptroller General of the United States or any of his duly authorized representatives shall, until expiration of 3 years after final payment under this contract, or of the time periods for the particular records specified in Part 1-20 of the Federal Procurement Regulations (41 CFR Part 1-20), whichever expires earlier, have access to and the right to examine any directly pertinent books, documents, papers, and records of the Contractor involving transactions related to this contract.

(c) The Contractor further agrees to include in all his subcontracts hereunder a provision to the effect that the subcontractor agrees that the Comptroller General of the United States or any of his duly authorized representatives shall, until expiration of 3 years after final payment under the subcontract, or of the time periods for the particular records specified in Part 1-20 of the Federal Procurement Regulations (41 CFR Part 1-20), whichever expires earlier, have access to and the right to examine any directly pertinent books, documents, papers, and records of such subcontractor, involving transactions related to the subcontract. The term "subcontract" as used in this clause excludes (1) purchase orders not exceeding $2,500 and (2) subcontracts or purchase orders for public utility services at rates established for uniform applicability to the general public.

(d) The periods of access and examination described in (b) and (c) above, for records which relate to (1) appeals under the "Disputes" clause of this contract, (2) litigation or the settlement of claims arising out of the performance of this contract, or (3) costs and expenses of this contract as to which exception has been taken by the Comptroller General or any of his duly authorized representatives, shall continue until such appeals, litigation, claims, or exceptions have been disposed of.

NOTE.—If the contract is awarded by the Office of Education, that part of paragraphs (b) and (c) reading "until the expiration of three years after final payment" is changed to read "until the expiration of five years after final payment."

5. EXAMINATION OF RECORDS BY THE DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

The provisions of Clause 4 above entitled, "Examination of Records by Comptroller General" are extended to provide equal rights to authorized representatives of the Secretary and to the Contracting Officer.

6. PRICING OF ADJUSTMENTS

When costs are a factor in determination of a contract price adjustment pursuant to the "Changes" clause or any provision of this contract, such costs shall be determined in accordance with the applicable cost principles and procedures set forth below:

Principles	*Types of organizations*
(a) Subpart 1-15.2 of the Federal Procurement Regulations (41 CFR 1-15.2).	Commercial.
(b) Subpart 1-15.3 of the Federal Procurement Regulations (41 CFR 1-15.3).	Educational.
(c) Subpart 1-15.7 of the Federal Procurement Regulations (41 CFR 1-15.7).	State or local governments.
(d) Appendix E to 45 CFR Part 74.	Hospitals.
(e) Appendix F to 45 CFR Part 74.	Other nonprofit institutions.

7. ACCOUNTS, AUDIT, AND RECORDS

(a) The Contractor shall maintain books, records, documents, and other evidence, accounting procedures, and practices, sufficient to reflect properly all direct and indirect costs of whatever nature claimed to have been incurred in the performance of this contract. The foregoing constitute "records" for the purposes of this clause.

(b) The Contractor's facility(ies) or such part thereof as may be engaged in the performance of this contract, and his records shall be subject at all reasonable time to inspection and audit by the Secretary or his authorized representatives.

(c) The Contractor shall preserve and make available his records (1) until the expiration of 3 years from the date of final payment under this contract, or the time periods for particular records specified in 41 CFR Part 1-20, whichever expires earlier, and (2) for such longer period, if any, as is required by applicable statute, or by other clauses of this contract, or by (i) or (ii) below:

(i) If this contract is completely or partially terminated, the records relating to the work terminated shall be preserved and made available for a period of 3 years from the date of any resulting final settlement.

(ii) Records which relate to (A) appeals under the "Disputes" clause of this contract, (B) litigation or the settlement of claims arising out of the performance of this contract, or (C) costs and expenses of this contract to which exception has been taken by the Contracting Officer or any of his duly authorized representatives, shall be retained until such appeals, litigation, claims, or exceptions have been disposed of.

(d) The Contractor shall insert the substance of this clause, including this paragraph (d) in each subcontract hereunder with the exceptions of (1) purchase orders not exceeding $2,500 and (2) subcontracts or purchase orders for public utility services at rates established for uniform applicability to the general public. When so inserted, changes shall be made to designate the higher-tier subcontractor at this level involved in place of the Contractor; to add "of the Government prime contract," in place of "this contract" in (B) of subparagraph (c) (ii) above.

NOTE: If the contract is awarded by the Office of Education, paragraph (c) and subparagraph (c) (1) are deleted, and the following is substituted therefor:

(c) The contractor shall preserve and make available his records (1) until the expiration of five (5) years after completion of the contract or by (i) and (ii) below.

(i) If the contract is completely or partially terminated the records relating to the work terminated shall be preserved and made available for five (5) years from date of termination settlement.

8. CHANGES

The Contracting Officer may at any time, by a written order, and without notice to the sureties, make changes, within the general scope of the contract, in any one or more of the following: (i) Drawings, designs, or specifications, (ii) method of shipment or packing, and (iii) place of inspection, delivery or acceptance. If any such change causes an increase or decrease in the cost of, or the time required for the performance of this contract, whether changed or not changed by any such order, an equitable adjustment shall be made (i) in the contract price or time of performance or both, and (ii) in such other provisions of the contract as may be so affected, and the contract shall be modified in writing accordingly. Any claim by the Contractor for adjustment under this clause must be asserted within 30 days from the date of receipt by the Contractor of the notification of change: *Provided, however*, That the Contracting Officer, if he decides that the facts justify such action, may receive and act upon any such claim asserted at any time prior to final payment under this contract. Failure to agree to any adjustment shall be a dispute concerning a question of fact within the meaning of the clause of this contract entitled "Disputes." However, nothing in this clause shall excuse the Contractor from proceeding with the contract as changed.

9. FEDERAL, STATE, AND LOCAL TAXES

(Text of this clause is set forth in FPR 1-11.401-1)

10. DEFAULT

(This clause is not applicable if the contract is awarded on the basis of no-profit to an educational or nonprofit institution.)

(a) The Government may, subject to the provisions of paragraph (c) of this clause, by written notice of default to the Contractor terminate the whole or any part of this contract in any one of the following circumstances:

(1) If the Contractor fails to perform the work called for by this contract within the time(s) specified herein or any extension thereof; or

(2) If the Contractor fails to perform any of the other provisions of this contract, or so fails to prosecute the work as to endanger performance of this contract in accordance with its terms, and in either of these two circumstances does not cure such failure within a period of 10 days (or such longer period as the Contracting Officer may authorize in writing) after receipt of notice from the Contracting Officer specifying such failure.

(b) In the event the Government terminates this contract in whole or in part as provided in paragraph (a) of this clause, the Government may procure, upon such terms and in such manner as the Contracting Officer may deem appropriate, work similar to the work so terminated and the Contractor shall be liable to the Government for any excess costs for such similar work: *Provided*, That the Contractor shall continue the performance of this contract to the extent not terminated under the provisions of this clause.

(c) Except with respect to defaults of subcontractors, the Contractor shall not be liable for any excess costs if the failure to perform the contract arises out of causes beyond the control and without the fault or negligence of the Contractor. Such causes may include, but are not restricted to, acts of God or of the public enemy, acts of the Government in either its sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather; but in every case the failure to perform must be beyond the control and without the fault or negligence of the Contractor. If the failure to perform is caused by the default of a subcontractor, and if such default arises out of causes beyond the control of both the Contractor and subcontractor, and without the fault or negligence of either of them, the Contractor shall not be liable for any excess costs for failure to perform unless the supplies or services to be furnished by the subcontractor were obtainable from other sources in sufficient time to permit the Contractor to meet the required delivery schedule or other performance requirements.

(d) If this contract is terminated as provided in paragraph (a) of this clause, the Government, in addition to any other rights provided in this clause, may require the Contractor to transfer title and deliver to the Government, in the manner and to the extent directed by the Contracting Officer, any of the completed or partially completed work not theretofore delivered to, and accepted by, the Government and any other property, including contract rights, specifically produced or specifically acquired for the performance of such part of this contract as has been terminated; and the Contractor shall, upon the direction of the Contracting Officer, protect and preserve property in the possession of the Contractor in which the Government has an interest. The Government shall pay to the Contractor the contract price, if separately stated, for completed work accepted by the Government and the amount agreed upon by the Contractor and the Contracting Officer for (1) completed work for which no separate price is stated, (2) partially completed work, (3) other property described above which is accepted by the Government, and (4) the protection and preservation of property. Failure to agree shall be a dispute concerning a question of fact within the meaning of the clause of this contract entitled "Disputes." The Government may withhold from amounts otherwise due the Contractor for such completed supplies or manufacturing materials such sum as the Contracting Officer determines to be necessary to protect the Government against loss because of outstanding liens or claims of former lien holders.

(e) If, after notice of termination of this contract under the provisions of this clause, it is determined for any reason that the Contractor was not in default under the provisions of this clause, or that the default was excusable under the provisions of this clause, the rights and obligations of the parties shall, if the contract contains a clause providing for termination for convenience of the Government, be the same as if the notice of termination had been issued pursuant to such clause. If, after notice of termination of this contract under the provisions of this clause, it is determined for any reason that the Contractor was not in default under the provisions of this clause, and if this contract does not contain a clause providing for termination for convenience of the Government, the contract shall be equitably adjusted to compensate for such termination and the contract modified accordingly; failure to agree to any such adjustment shall be a dispute concerning a question of fact within the meaning of the clause of this contract entitled "Disputes."

(f) The rights and remedies of the Government provided in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law or under this contract.

(g) As used in paragraph (c) of this clause, the terms "subcontractor" and "subcontractors" means subcontractor(s) at any tier.

11. TERMINATION FOR CONVENIENCE OF THE GOVERNMENT

(i) The following clause is applicable if the contract is with an educational or nonprofit institutuion on a no-fee or no-profit basis.

(a) The performance of work under this contract may be terminated, in whole or from time to time in part, by the Government whenever for any reason the Contracting Officer shall determine that such termination is in the best interest of the Government. Termination of work hereunder shall be effected by delivery to the Contractor of a Notice of Termination specifying the extent to which performance of work under the contract is terminated and the date upon which such termination shall become effective.

(b) After receipt of the Notice of Termination the Contractor shall cancel his outstanding commitments hereunder covering the procurement of materials, supplies, equipment, and miscellaneous items. In addition, the Contractor shall exercise all reasonable diligence to accomplish the cancellation or diversion of his outstanding commitments covering personal services and extending beyond the date of such termination to the extent that they relate to the performance of any work terminated by the notice. With respect to such canceled commitments the Contractor agrees to (1) settle all outstanding liabilities and all claims arising out of such cancellation of commitments, with the approval or ratification of the Contracting officer, to the extent he may require, which approval or ratification shall be final for all purposes of this clause, and (2) assign to the Government, in the manner, at the time, and to the extent directed by the Contracting Officer all of the right, title, and interest of the Contractor under the orders and subcontracts so terminated, in which case the Government shall have the right, in its discretion, to settle or pay any or all claims arising out of the termination of such orders and subcontracts.

(c) The Contractor shall submit his termination claim to the Contracting Officer promptly after receipt of a Notice of Termination, but in no event later than one year from the effective date thereof, unless one or more extensions in writing are granted by the Contracting Officer upon written request of the Contractor within such one-year period or authorized extension thereof. Upon failure of the Contractor to submit his termination claim within the time allowed, the Contracting Officer may, subject to any review required by the contracting agency's procedures in effect as of the date of execution of this contract, determine, on the basis of information available to him, the amount, if any, due the Contractor by reason of the termination and shall thereupon pay to the Contractor the amounts so determined.

(d) Any determination of costs under paragraphs (c) or (e) hereof shall be governed by the applicable contract cost principles and procedures specified in the clause of this contract entitled "Pricing of Adjustments."

(e) Subject to the provisions of paragraph (c) above, and subject to any review required by the contracting agency's procedures in effect as of the date of execution of this contract, the Contractor and the Contracting Officer may agree upon the whole or any part of the amount or amounts to be paid to the Contractor by reason of the termination under this clause, which amount or amounts may include any reasonable cancellation charges thereby incurred by the Contractor and any reasonable loss upon outstanding commitments for personal services which he is unable to cancel: *Provided, however*, That in connection with any outstanding commitments for personal services which the Contractor is unable to cancel, the Contractor shall have exercised reasonable diligence to divert such commitments to his other activities and operations. Any such agreement shall be embodied in an amendment to this contract and the Contractor shall be paid the agreed amount.

(f) The Government may from time to time, under such terms and conditions as it may prescribe, make partial payments against costs incurred by the Contractor in connection with the terminated portion of this contract, whenever, in the opinion of the Contracting Officer, the aggregate of such payments is within the amount to which the Contractor will be entitled hereunder. If the total of such payments is in excess of the amount finally agreed or determined to be due under this clause, such excess shall be payable by the Contractor to the Government upon demand: *Provided*, That if such excess is not so paid upon demand, interest thereon shall be payable by the Contractor to the Government at the rate of 6 percent per annum, beginning 30 days from the date of such demand.

(g) The Contractor agrees to transfer title to the Government and deliver in the manner, at the times, and to the extent, if any, directed by the Contracting Officer, such information and items which, if the contract had been completed, would have been required to be furnished to the Government, including:

(1) Completed or partially completed plans, drawings, and information; and

(2) Materials or equipment produced or in process or acquired in connection with the performance of the work terminated by the notice. Other than the above, any termination inventory resulting from the termination of the contract may, with the written approval of the Contracting Officer, be sold or acquired by the Contractor under the conditions prescribed by and at a price or prices approved by the Contracting Officer. The proceeds of any such disposition shall be applied in reduction of any payments to be made by the Government to the Contractor under this contract or shall otherwise be credited to the price or cost of work covered by this contract or paid in such other manner as the Contracting Officer may direct. Pending final disposition of property arising from the termination, the Contractor agrees to take such action as may be necessary, or as the Contracting Officer may direct, for the protection and preservation of the property related to this contract which is in the possession of the Contractor and in which the Government has or may acquire an interest.

(h) Any disputes as to questions of fact which may arise hereunder shall be subject to the "Disputes" clause of this contract.

(ii) The following clause is applicable if a profit has been contemplated by the contractor:

(a) The performance of work under this contract may be terminated by the Government in accordance with this clause in whole, or from time to time in part, whenever the Contracting Officer shall determine that such termination is in the best interest of the Government. Any such termination shall be effected by delivery to the Contractor of a Notice of Termination specifying the extent to which performance of work under the contract is terminated, and the date upon which such termination becomes effective.

(b) After receipt of Notice of Termination, and except as otherwise directed by the Contracting Officer, the Contractor shall:

(1) Stop work under the contract on the date and to the extent specified in the Notice of Termination;

(2) Place no further orders or subcontracts for materials, services, or facilities, except as may be necessary for completion of such portion of the work under the contract as is not terminated;

(3) Terminate all orders and subcontracts to the extent that they relate to the performance of work terminated by the Notice of Termination;

(4) Assign to the Government, in the manner, at the times, and to the extent directed by the Contracting Officer, all of the right, title, and interest of the Contractor under the orders and subcontracts so terminated, in which case the Government shall have the right, in its discretion, to settle or pay any or all claims arising out of the termination of such orders and subcontracts.

(5) Settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts, with the approval or ratification of the Contracting Officer, to the extent he may require, which approval or ratification shall be final for all purposes of this clause;

(6) Transfer title to the Government and deliver in the manner, at the times, and to the extent, if any, directed by the Contracting Officer, (i) the fabricated or unfabricated parts, work in process, completed work, supplies, and other material produced as a part of, or acquired in connection with the performance of, the work terminated by the Notice of Termination, and (ii) the completed or partially completed plans, drawings, information and other property which, if the contract had been completed, would have been required to be furnished to the Government;

(7) Use his best efforts to sell, in the manner, at the times, to the extent, and at the price or prices directed or authorized by the Contracting Officer, any property of the types referred to in (6) above: *Provided, however*, That the Contractor (i) shall not be required to extend credit to any purchaser, and (ii) may acquire any such property under the conditions prescribed by and at a price or prices approved by the Contracting Officer: *And provided further*, That the proceeds of any such transfer or disposition shall be applied in reduction of any payments to be made by the Government to the Contractor under this contract or shall otherwise be credited to the price or cost of the work covered by this contract or paid in such other manner as the Contracting Officer may direct;

(8) Complete performance of such part of the work as shall not have been terminated by the Notice of Termination; and

(9) Take such action as may be necessary, or as the Contracting Officer may direct, for the protection and preservation of the property related to this contract which is in the possession of the Contractor and in which the Government has or may acquire an interest.

At any time after expiration of the plant clearance period, as defined in Subpart 1–8.1 of the Federal Procurement Regulations (41 CFR 1–8.1), as the definition may be amended from time to time, the contractor may submit to the Contracting Officer a list, certified as to quantity and quality, of any or all items of termination inventory not previously disposed of, exclusive of items the disposition of which has been directed or authorized by the Contracting Officer, and may request the Government to remove such items or enter into a storage agreement covering them. Not later than fifteen (15) days thereafter, the Government will accept title to such items and remove them or enter into a storage agreement covering the same: *Provided*, That the list submitted shall be subject to verification by the Contracting Officer upon removal of the items or, if the items are stored, within forty-five (45) days from the date of submission of the list, and any necessary adjustment to correct the list as submitted shall be made prior to final settlement.

(c) After receipt of a Notice of Termination the Contractor shall submit to the Contracting Officer his termination claim, in the form and with certification prescribed by the Contracting Officer. Such claim shall be submitted promptly but in no event later than one year from the effective date of termination, unless one or more extensions in writing are granted by the Contracting Officer upon request of the Contractor made in writing within such one-year period or authorized extension thereof. However, if the Contracting Officer determines that the facts justify such action, he may receive and act upon any such termination claim at any time after such one-year period or any extension thereof. Upon failure of the Contractor to submit his termination claim within the time allowed, the Contracting Officer may, subject to any review required by the contracting agency's procedures in effect as of the date of execution of this contract, determine, on the basis of information available to him, the amount, if any, due to the Contractor by reason of the termination and shall thereupon pay to the Contractor the amount so determined.

(d) Subject to the provisions of paragraph (c), and subject to any review required by the contracting agency's procedures in effect as of the date of execution of this contract, the Contractor and the Contracting Officer may agree upon the whole or any part of the amount or amounts to be paid to the Contractor by reason of the total or partial termination of work pursuant to this clause, which amount or amounts may include a reasonable allowance for profit on work done: *Provided*, That such agreed amount or amounts, exclusive of settlement costs, shall not exceed the total contract price as reduced by the amount of payments otherwise made and as further reduced by the contract price of work not terminated. The contract shall be amended accordingly, and the Contractor shall be paid the agreed amount. Nothing in paragraph (e) of this clause, prescribing the amount to be paid to the Contractor in the event of failure of the Contractor and the Contracting Officer to agree upon the whole amount to be paid to the Contractor by reason of the termination of work pursuant to this clause, shall be deemed to limit, restrict, or otherwise determine or affect the amount or amounts which may be agreed upon to be paid to the Contractor pursuant to this paragraph (d).

(e) In the event of the failure of the Contractor and the Contracting Officer to agree as provided in paragraph (d) upon the whole amount to be paid to the Contractor by reason of the termination of work pursuant to this clause, the Contracting Officer shall, subject to any review required by the contracting agency's procedures in effect as of the date of execution of this contract, determine, on the basis of information available to him, the amount, if any, due to the Contractor by reason of the termination and shall pay to the Contractor the amounts determined as follows:

(1) For completed supplies accepted by the Government (or sold or acquired as provided in paragraph (b)(7) above) and not theretofore paid for, a sum equivalent to the aggregate price for such supplies computed in accordance with the price or prices specified in the contract, appropriately adjusted for any saving of freight or other charges;

(2) The total of:

(i) The costs incurred in the performance of the work terminated, including initial costs and preparatory expense allocable thereto, but exclusive of any costs attributable to supplies paid or to be paid for under paragraph (e)(1) hereof;

(ii) The cost of settling and paying claims arising out of the termination of work under subcontracts or orders, as provided in paragraph (b)(5) above, which are properly chargeable to the terminated portion of the contract (exclusive of amounts paid or payable on account of supplies or materials delivered or services furnished by subcontractors or vendors prior to the effective date of the Notice of Termination, which amounts shall be included in the costs payable under (i) above); and

(iii) A sum, as profit on (i) above, determined by the contracting officer pursuant to § 1–8.303 of the Federal Procurement Regulations (41 CFR 1–8.303), in effect as of the date of execution of this contract, to be fair and reasonable: ***Provided, however***, That if it appears that the contractor would have sustained a loss on the entire contract had it been completed, no profit shall be included or allowed under this subdivision (iii) and an appropriate adjustment shall be made reducing the amount of the settlement to reflect the indicated rate of loss; and

(3) The reasonable costs of settlement, including accounting, legal, clerical, and other expenses reasonably necessary for the preparation of settlement claims and supporting data with respect to the terminated portion of the contract and for the termination and settlement of subcontracts thereunder, together with reasonable storage, transportation, and other costs incurred in connection with the protection or disposition of property allocable to this contract.

The total sum to be paid to the Contractor under (1) and (2) of this paragraph (e) shall not exceed the total contract price as reduced by the amount of payments otherwise made and as further reduced by the contract price of work not terminated. Except for normal spoilage, and except to the extent that the Government shall have otherwise expressly assumed the risk of loss, there shall be excluded from the amounts payable to the Contractor as provided in (e)(1) and (2)(i) above, the fair value, as determined by the Contracting Officer, of property which is destroyed, lost, stolen, or damaged so as to become undeliverable to the Government, or to a buyer pursuant to paragraph (b)(7).

(f) Costs claimed, agreed to, or determined pursuant to paragraphs (c), (d), and (e) of this clause shall be in accordance with the applicable contract cost principles and procedures in Part 1–15 of the Federal Procurement Regulations (41 CFR 1–15) in effect on the date of this contract.

(g) The Contractor shall have the right to appeal, under the clause of this contract entitled "Disputes," from any determination made by the Contracting Officer under paragraph (c) or (e) above, except that, if the Contractor has failed to submit his claim within the time provided in paragraph (c) above and has failed to request extension of such time, he shall have no such right or appeal. In any case where the Contracting Officer has made a determination of the amount due under paragraph (c) or (e) above, the Government shall pay to the Contractor the following: (1) if there is no right of appeal hereunder or if no timely appeal has been taken, the amount so determined by the Contracting Officer; or (2) if an appeal has been taken, the amount finally determined on such appeal.

(h) In arriving at the amount due the Contractor under this clause there shall be deducted (1) all unliquidated advance or other payments on account theretofore made to the Contractor, applicable to the terminated portion of this contract; (2) any claim which the Government may have against the Contractor in connection with this contract; and (3) the agreed price for, or the proceeds of sale of, any materials, supplies, or other things acquired by the Contractor or sold pursuant to the provisions of this clause, and not otherwise recovered by or credited to the Government.

(i) If the termination hereunder be partial, prior to the settlement of the terminated portion of this contract, the Contractor may file with the Contracting Officer a request in writing for an equitable adjustment of the price or prices specified in the contract relating to the continued portion of the contract (the portion not terminated by the Notice of Termination), and such equitable adjustment as may be agreed upon shall be made in such price or prices.

(j) The Government may from time to time, under such terms and conditions as it may prescribe, make partial payment and payments on account against costs incurred by the Contractor in connection with the terminated portion of this contract whenever in the opinion of the Contracting Officer the aggregate of such payments shall be within the amount to which the Contractor will be entitled hereunder. If the total of such payments is in excess of the amount finally agreed or determined to be due under this clause, such excess shall be payable by the Contractor to the Government upon demand, together with interest computed at the rate of 6 percent per annum for the period from the date such excess payment is received by the Contractor to the date on which such excess is repaid to the Government: *Provided, however,* That no interest shall be charged with respect to any such excess payment attributable to a reduction in the Contractor's claim by reason of retention or other disposition of termination inventory until ten days after the date of such retention or disposition, or such later date as determined by the Contracting Officer by reason of the circumstances.

(k) Unless otherwise provided for in this contract, or by applicable statute, the Contractor, from the effective date of termination and for a period of three years after final settlement under this contract, shall preserve and make available to the Government at all reasonable times at the office of the Contractor but without direct charge to the Government, all his books, records, documents, and other evidence bearing on the costs and expenses of the Contractor under this contract and relating to the work terminated hereunder, or, to the extent approved by the Contracting Officer, photographs, microphotographs, or other authentic reproductions thereof.

12. GOVERNMENT PROPERTY

(i) If the contract is with a profitmaking organization, the following clause is applicable:

(a) The Government shall deliver to the Contractor, for use in connection with and under the terms of this contract, the property described as Government-furnished property in the Schedule or specifications, together with such related data and information as the Contractor may request and as may reasonably be required for the intended use of such property (hereinafter referred to as "Government-furnished property"). The delivery or performance dates for the supplies or services to be furnished by the Contractor under this contract are based upon the expectation that Government-furnished property suitable for use (except for such property furnished "as is") will be delivered to the Contractor at the times stated in the Schedule or, if not so stated, in sufficient time to enable the Contractor to meet such delivery or performance dates. In the event that Government-furnished property is not delivered to the Contractor by such time or times, the Contracting Officer shall, upon timely written request made by the Contractor, make a determination of the delay, if any, occasioned the Contractor thereby, and shall equitably adjust the delivery or performance dates or the contract price, or both, and any other contractual provision affected by any such delay, in accordance with the procedures provided for in the clause of this contract entitled "Changes." Except for Government-furnished property furnished "as is," in the event the Government-furnished property is received by the Contractor in a condition not suitable for the intended use the Contractor shall, upon receipt thereof, notify the Contracting Officer of such fact and, as directed by the Contracting Officer, either (1) return such property at the Government's expense or otherwise dispose of the property, or (2) effect repair or modification, in accordance with the procedures provided for in the clause of this contract entitled "Changes." The foregoing provisions for adjustment are exclusive and the Government shall not be liable to suit for breach of contract by reason of any delay in delivery of Government-furnished property or delivery of such property in a condition not suitable for its intended use.

(b) (1) By notice in writing, the Contracting Officer may (i) decrease the property provided or to be provided by the Government under this contract, or (ii) substitute other Government-owned property for property to be provided by the Government, or to be acquired by the Contractor for the Government, under this contract. The Contractor shall promptly take such action as the Contracting Officer may direct with respect to the removal and shipping of property covered by such notice.

(2) In the event of any decrease in or substitution of property pursuant to subparagraph (1), above, or any withdrawal of authority to use property provided under any other contract or lease, which property the Government had agreed in the Schedule to make available for the performance of this contract, the Contracting Officer, upon the written request of the Contractor (or, if the substitution of property causes a decrease in the cost of performance, on his own initiative), shall equitably adjust such contractual provisions as may be affected by the decrease, substitution, or withdrawal, in accordance with the procedures provided for in the "Changes" clause of this contract.

(c) Title to all property furnished by the Government shall remain in the Government. In order to define the obligations of the parties under this clause, title to each item of facilities, special test equipment, and special tooling (other than that subject to a "Special Tooling" clause) acquired by the Contractor for the Government pursuant to this contract shall pass to and vest in the Government when its use in the performance of this contract commences, or upon payment therefor by the Government, whichever is earlier, whether or not title previously vested. All Government-furnished property, together with all property acquired by the Contractor title to which vests in the Government under this paragraph, is subject to the provisions of this clause and is hereinafter collectively referred to as "Government property." Title to Government property shall not be affected by the incorporation or attachment thereof to any property not owned by the Government, nor shall such Government property, or any part thereof, be or become a fixture or lose its identity as personalty by reason of affixation to any realty.

(d) The Contractor shall be responsible for and accountable for all Government property provided under this contract. The Contractor shall establish and maintain a system to control, protect, preserve, and maintain all Government property. This system shall, upon request by the Contracting Officer, be submitted for review and, if satisfactory, approved in writing by the Contracting Officer. The Contractor shall maintain and make available such records as are required by the approved system and must account for all property until relieved of responsibility therefor in accordance with written instructions of the Contracting Officer.

(e) The Government property shall, unless otherwise provided herein or approved by the Contracting Officer, be used only for the performance of this contract.

(f) The Contractor shall maintain and administer, in accordance with sound industrial practice, a program for the utilization, maintenance, repair, protection, and preservation of Government property until disposed of by the Contractor in accordance with this clause. In the event that any damage occurs to Government property the risk of which has been assumed by the Government under this contract, the Government shall replace such items or the Contractor shall make such repair of the property as the Government directs: *Provided, however,* That if the Contractor cannot effect such repair within the time required, the Contractor shall dispose of such property in the manner directed by the Contracting Officer. The contract price includes no compensation to the Contractor for the performance of any repair or replacement for which the Government is responsible, and an equitable adjustment will be made in any contractual provisions affected by such repair or replacement of Government property made at the direction of the Government, in accordance with the procedures provided for in the "Changes" clause of this contract. Any repair or replacement for which the Contractor is responsible under the provisions of this contract shall be accomplished by the Contractor at his own expense.

(g) Unless otherwise provided in this contract, the Contractor assumes the risk of, and shall be responsible for, any loss of or damage to Government property provided under this contract upon its delivery to him or upon passage of title thereto to the Government as provided in paragraph (c) hereof, except for reasonable wear and tear and except to the extent that such property is consumed in the performance of this contract.

(h) The Government, and any persons designated by it, shall at all reasonable times have access to the premises wherein any Government property is located, for the purpose of inspecting the Government property.

(i) Upon the completion of this contract, or at such earlier dates as may be fixed by the Contracting Officer, the Contractor shall submit, in a form acceptable to the Contracting Officer, inventory schedules covering all items of Government property not consumed in the performance of this contract (including any resulting scrap) or not theretofore delivered to the Government, and shall prepare for shipment, delivery f.o.b. origin, or dispose of the Government property, as may be directed or authorized by the Contracting Officer. The net proceeds of any such disposal shall be credited to the contract price or shall be paid in such other manner as the Contracting Officer may direct.

(j) Unless otherwise provided herein, the Government:

(1) May abandon any Government property in place, and thereupon all obligations of the Government regarding such abandoned property shall cease; and

(2) Has no obligation to the Contractor with regard to restoration or rehabilitation of the Contractor's premises, neither in case of abandonment (paragraph (j)(1), above), disposition on completion of need or of the contract (paragraph (1), above), nor otherwise, except for restoration or rehabilitation costs which are properly included in an equitable adjustment under paragraph (b), above.

(k) All communications issued pursuant to this clause shall be in writing.

(ll) In contracts for which the price is not based on (1) adequate price competition, (2) established catalog or market prices of commercial items sold in substantial quantities to the general public, or (3) prices set by law or regulations and (4) the price does not include any charges or reserve for insurance (including self insurance) covering damage to Government property, substitute the following (g) for paragraph (g) of the clause set forth above.

(g)(1) Except as provided in (2), below, the Contractor shall not be liable for loss or destruction of or damage to the Government property provided under this contract:

(i) Caused by any peril while the property is in transit off the Contractor's premises; or

(ii) Caused by any of the following perils while the property is on the Contractor's or subcontractor's premises, or on any other premises where such property may properly be located, or by removal therefrom because of any of the following perils:

(A) Fire; lightning, windstorm, cyclone, tornado, hail; explosion; riot, riot attending a strike, civil commotion; vandalism and malicious mischief; sabotage; aircraft or objects falling therefrom; vehicles running on land or tracks, excluding vehicles owned or operated by the Contractor or any agent or employee of the Contractor; smoke; sprinkler leakage; earthquake or volcanic eruption; flood, meaning thereby rising of a body of water; nuclear reaction, nuclear radiation or radioactive contamination; hostile or warlike action, including action in hindering, combating, or defending against an actual, impending, or expected attack by any government or sovereign power (de jure or de facto), or by any authority using military, naval, or air forces; or by an agent of any such government, power, authority, or forces; or

(B) Other peril, of a type not listed above, if such other peril is customarily covered by insurance (or by a reserve for self-insurance) in accordance with the normal practice of the Contractor, or the prevailing practice in the industry in which the Contractor is engaged with respect to similar property in the same general locale.

The perils as set forth in (i) and (ii), above, are hereinafter called "excepted perils."

If the Contractor transfers Government property to the possession and control of a subcontractor, the transfer shall not affect the liability of the Contractor for loss or destruction of or damage to the property as set forth above. However, the Contractor shall require the subcontractor to assume the risk of, and be responsible for, any loss or destruction of or damage to the property while in the latter's possession or control, except to the extent that the subcontract, with the prior approval of the Contracting Officer, provides for the relief of the subcontractor from such liability. In the absence of such approval, the subcontract shall contain appropriate provisions requiring the return of all Government property in as good condition as when received, except for reasonable wear and tear or for the utilization of the property in accordance with the provisions of the prime contract.

(2) Notwithstanding (1), above, the Contractor shall be responsible for any loss or damage (a) to the extent specifically provided the clause or clauses of this contract designated in the schedule, or (b) which results from:

(i) Willful misconduct or lack of good faith of any of the Contractor's managerial personnel; or

(ii) A failure on the part of the Contractor, due to willful misconduct or lack of good faith of the Contractor's managerial personnel, (aa) to maintain and administer the program for maintenance, repair, protection, and preservation of the Government property as required by paragraph (f) hereof, or (bb) to establish, maintain, and administer a system for control of Government property as required by paragraph (d) of this clause.

Any failure of the Contractor to act, as provided in this (B), shall be conclusively presumed to be a failure resulting from willful misconduct, or lack of good faith on the part of one of the Contractor's managerial personnel if the Contractor is notified by the Contracting Officer by registered or certified mail addressed to one of the Contractor's managerial personnel, of the Government's disapproval, withdrawal of approval, or nonacceptance of the Contractor's program or system. In such event, it shall be presumed that any loss of or damage to Government property resulted from such failure. The Contractor shall be liable for such loss or damage unless he can establish by clear and convincing evidence that such loss or damage did not result from his failure to maintain an approved program or system, or occurred during such time as an approved program or system for control of Government property was maintained.

The term "Contractor's managerial personnel" as used herein means the Contractor's directors, officers, and any of his managers, superintendents, or other equivalent representatives who have supervision or direction of:

(A) All or substantially all of the Contractor's business;

(B) All or substantially all of the Contractor's operation at any one plant or separate location at which the contract is being performed; or

(C) A separate and complete major industrial operation in connection with the performance of this contract.

(3) The Contractor represents that he is not including in the price hereunder, and agrees that he will not hereafter include in any price to the Government, any charge or reserve for insurance (including any self-insurance funds or reserve) covering loss or destruction of or damage to the Government property caused by any excepted peril.

(4) Upon the happening of loss or destruction of or damage to any Government property caused by an excepted peril, the Contractor shall notify the Contracting Officer thereof, and shall communicate with the loss and salvage organization, if any, now or hereafter designated by the Contracting Officer, and with the assistance of the loss and salvage organization so designated (unless the Contracting Officer has directed that no such organization be employed), shall take all reasonable steps to protect the Government property from further damage, separate the damaged and undamaged Government property, put all the Government property in the best possible order, and furnish to the Contracting Officer a statement of:

(i) The lost, destroyed, and damaged Government property;

(ii) The time and origin of the loss, destruction, or damage;

(iii) All known interests in commingled property of which the Government property is a part; and

(iv) The insurance, if any, covering any part of or interest in such commingled property.

The Contractor shall be entitled to an equitable adjustment in the contract price for the expenditures made by him in performing his obligations under this subparagraph (4) (including charges made to the Contractor by the loss and salvage organization, except any of such charges the payment of which the Government has, at its option, assumed directly), in accordance with the procedures provided for in the "Changes" clause of this contract.

(5) With the approval of the Contracting Officer after loss or destruction of or damage to Government property, and subject to such conditions and limitations as may be imposed by the Contracting Office, the Contractor may, in order to minimize the loss to the Government or in order to permit resumption of business or the like, sell for the account of the Government any item of Government property which has been damaged beyond practicable repair, or which is so commingled or combined with property of others, including the Contractor, that separation is impracticable.

(6) Except to the extent of any loss or destruction of or damage to Government property for which the Contractor is relieved of liability under the foregoing provisions of this clause, and except for reasonable wear and tear or depreciation, or the utilization of the Government property in accordance with the provisions of this contract, the Contractor assumes the risk of, and shall be responsible for, any loss or destruction of or damage to the Government property, and such property (other than that which is permitted to be sold) shall be returned to the Government in as good condition as when received by the Contractor in connection with this contract, or as repaired under paragraph (f), above.

(7) In the event the Contractor is reimbursed or compensated for any loss or destruction of or damage to the Government property, caused by an excepted peril, he shall equitably reimburse the Government. The Contractor shall do nothing to prejudice the Government's rights to recover against third parties for any such loss, destruction, or damage, and, upon the request of the Contracting Officer, shall at the Government's expense furnish to the Government all reasonable assistance and cooperation (including the prosecution of suit and the execution of instruments of assignment in favor of the Government) in obtaining recovery. In addition, where a subcontractor has not been relieved from liability for any loss or destruction of or damage to the Government property, the Contractor shall enforce the liability of the subcontractor for such loss or destruction of or damage to the Government property for the benefit of the Government.

(iii) The following clause is applicable when the contract is without fee or profit and is with an educational or nonprofit institution.

(a) The Government shall deliver to the Contractor, for use in connection with and under the terms of this contract, the property described as Government-furnished property in the Schedule or specifications, together with such related data and information as the Contractor may request and as may reasonably be required for the intended use of such property (hereinafter referred to as "Government-furnished property"). The delivery or performance dates for the supplies or services to be furnished by the Contractor under this contract are based upon the expectation that Government-furnished property suitable for use (except for such property furnished "as is") will be delivered to the Contractor at the times stated in the Schedule, or, if not so stated, in sufficient time to enable the Contractor to meet such delivery or performance dates. In the event that Government-furnished property is not delivered to the Contractor by such time or times, the Contracting Officer shall, upon timely written request made by the Contractor, make a determination of the delay, if any, occasioned by the Contractor thereby, and shall equitably adjust the delivery or performance dates or the contract price, or both, and any other contractual provision affected by any such delay. Except for Government-furnished property furnished "as is," in the event that Government-furnished property is received by the Contractor in a condition not suitable for its intended use, the Contractor shall, upon receipt thereof, notify the Contracting Officer of such fact and, as directed by the Contracting Officer, either (1) return such property at the Government's expense or otherwise dispose of such property, or (2) effect repairs or modifications. Upon completion of (1) or (2), above, the Contracting Officer upon timely written request of the Contractor shall equitably adjust the delivery or performance dates or the contract price, or both, and any other contractual provision affected by the return, disposition, repair, or modification. The foregoing provisions for adjustment are exclusive and the Government shall not be liable to suit for breach of contract by reason of any delay in delivery of Government-furnished property or delivery of such property in a condition not suitable for its intended use.

(b)(1) By notice in writing, the Contracting Officer (i) may decrease the property furnished or to be furnished by the Government under this contract, or (ii) substitute other Government-owned property for property to be furnished by the Government, or to be acquired by the Contractor for the Government, under this contract. The Contractor shall promptly take such action as the Contracting Officer may direct with respect to the removal, shipping, and disposal of property covered by such notice.

(2) In the event of any decrease in or substitution of property pursuant to paragraph (1), above, or any withdrawal of authority to use property provided under any other contract or lease, which property the Government had agreed in the Schedule to make available for the performance of this contract, the Contracting Officer, upon the written request of the Contractor (or, if the substitution of property causes a decrease in the cost of performance, on his own initiative), shall equitably adjust such contractual provisions as may be affected by the decrease, substitution or withdrawal, in accordance with the procedures provided in the "Changes" clause of this contract.

(c)(1) Title to all property furnished by the Government shall remain in the Government.

(2) Notwithstanding subparagraph (c)(1) above, title to equipment purchased with funds available for research, having an acquisition cost of less than $1,000, shall vest in the Contractor upon acquisition or as soon thereafter as feasible, provided that the Contractor shall have obtained approval of the Contracting Officer prior to acquisition of such property.

(3) Title to equipment having an acquisition cost of $1,000 or more, purchased with funds available for the conduct of research, shall vest as set forth in the contract.

(4) If title to equipment is vested pursuant to (c)(2) or (c)(3) above, the Contractor agrees that no charge will be made to the Government for any depreciation, amortization, or use charge with respect to such equipment under any existing or future Government contract or subcontract thereunder.

(5) The Contractor shall furnish the Contracting Officer a list of all equipment acquired under subparagraph (c)(2) above within ten (10) days following the end of the calendar quarter during which such equipment was received.

(6) All Government furnished property, together with all property acquired by the Contractor, title to which vests in the Government under this clause, is hereinafter collectively referred to as "Government property."

(7) Title to Government property shall not be affected by the incorporation or attachment thereof to any property not owned by the Government, nor shall such Government property, or any part thereof, be or become a fixture or lose its identity as personalty by reason of affixation to any realty.

(8) In order to define the obligations of the parties under this clause, where title to each item of facilities, special test equipment, and special tooling (other than that subject to a "Special Tooling" clause) acquired by the Contractor is to vest in the Government, title shall pass to and vest in the Government when its use in the performance of this contract commences, or upon payment therefor by the Government, whichever is earlier, whether or not title previously vested.

(d) The Contractor shall be responsible for and accountable for all Government property provided under this contract. The Contractor shall establish and maintain a system to control, protect, preserve, and maintain all Government property. This system shall, upon request by the Contracting Officer, be submitted for review and, if satisfactory, approved in writing by the Contracting Officer. The Contractor shall maintain and make available such records as are required by the approved system and must account for all property until relieved of responsibility therefor in accordance with written instructions of the Contracting Officer.

(e) The Government property shall, unless otherwise provided herein or approved by the Contracting Officer, be used only for the performance of this contract.

(f) The Contractor shall maintain and administer, in accordance with sound business practice, a program for the utilization, maintenance, repair, protection, and preservation of Government property, until disposed of by the Contractor in accordance with this clause. In the event that any damage occurs to Government property the risk of which has been assumed by the Government under this contract, the Government shall replace such items or the Contractor shall make such repair of the property as the Government directs: *Provided, however*, That if the Contractor cannot effect such repair within the time required, the Contractor may reject such property. The contract price includes no compensation to the Contractor for the performance of any repair or replacement for which the Government is responsible, and an equitable adjustment will be made in any contractual provision affected by the repair or replacement of Government property made at the direction of the Government. Any repair or replacement for which the Contractor is responsible under the provision of this contract shall be accomplished by the Contractor at his own expense.

(g)(1) The Contractor shall not be liable for any loss of or damage to the Government property, or for expenses incidental to such loss or damage except that the Contractor shall be liable for any loss or damage to Government property provided under this contract upon its delivery to him or passage of title to the Government as provided in paragraph (c), above (including expenses incidental thereto):

(i) Which results from willful misconduct or lack of good faith on the part of any of the Contractor's directors or officers, or on the part of his managers, superintendents, or other equivalent representatives who have supervision or direction of all or substantially all of the Contractor's business, or all or substantially all of the Contractor's operations at any one plant, laboratory, or separate location in which this contract is being performed;

(ii) Which results from a failure on the part of the Contractor, due to the willful misconduct or lack of good faith on the part of any of his directors, officers, or other representatives mentioned in subparagraph (i), above:

(A) To maintain and administer, in accordance with sound industrial practice, the program for maintenance, repair, protection, and preservation of Government property as required by paragraph (f), hereof, or to take all reasonable steps to comply with any appropriate written direction of the Contracting Officer under paragraph (f), hereof; or

(B) To establish, maintain, and administer, in accordance with paragraph (d), above, a system for control of Government property.

(iii) For which the Contractor is otherwise responsible under the express terms of the clause or clauses designated in the Schedule;

(iv) Which results from a risk expressly required to be insured under some other provision of this contract, or of the Schedules or task orders thereunder, but only to the extent of the insurance so required to be procured and maintained or to the extent of insurance actually procured and maintained, whichever is greater; or

(v) Which results from a risk which is in fact covered by insurance or for which the Contractor is otherwise reimbursed, but only to the extent of such insurance or reimbursement.

Any failure of the Contractor to act, as provided in subparagraph (ii), above, shall be conclusively presumed to be a failure resulting from willful misconduct, or lack of good faith on the part of such directors, officers, or other representatives mentioned in subparagraph (i), above, if the Contractor is notified by the Contracting Officer by registered or certified mail, addressed to one of such directors, officers, or other representatives of the Government's disapproval, withdrawal of approval, or nonacceptance of the Contractor's program or system. In such event, it shall be presumed that any loss or damage to Government property resulted from such failure. The Contractor shall be liable for such loss or damage unless he can establish by clear and convincing evidence that such loss or damage did not result from his failure to maintain an approved program or system, or occurred during such time as an approved program or system for control of Government property was maintained.

If more than one of the above exceptions shall be applicable in any case, the Contractor's liability under any one exception shall not be limited by any other exception.

(2) The Contractor represents that he is not including in the price hereunder, and agrees that he will not hereafter include in any price to the Government, any charge or reserve for insurance (including self-insurance funds or reserves) covering loss or de-

struction of or damage to the Government property, except to the extent that the risk of loss is imposed on the Contractor under (1) (ii), above, or insurance has been required under (1) (iv), above.

(3) Upon the happening of loss or destruction of or damage to any Government property, the Contractor shall notify the Contracting Officer thereof and shall communicate with the loss and salvage organization, if any, now or hereafter designated by the Contracting Officer, and with the assistance of the loss and salvage organization so designated (unless the Contracting Officer has directed that no such organization be employed) shall take all reasonable steps to protect the Government property from further damage, separate the damaged and undamaged Government property, put all the Government property in the best possible order, and furnish to the Contracting Officer a statement of:

(i) The lost, destroyed, and damaged Government property;

(ii) The time and origin of the loss, destruction, or damage;

(iii) All known interests in commingled property of which the Government property is a part; and

(iv) The insurance, if any, covering any part of or interest in such commingled property.

The Contractor shall be entitled to an equitable adjustment in the contract price for the expenditures made by him in performing his obligations under this subparagraph (3) (including charges made to the Contractor by the loss and salvage organization, except any of such charges the payment of which the Government has, at its option, assumed directly).

(4) With the approval of the Contracting Officer after loss or destruction of or damage to Government property, and subject to such conditions and limitations as may be imposed by the Contracting Officer, the Contractor may, in order to minimize the loss to the Government or in order to permit resumption of business or the like, sell for the account of the Government any item of Government property which has been damaged beyond practicable repair, or which is so commingled or combined with property of others, including the Contractor, that separation is impracticable.

(5) Except to the extent of any loss or destruction of or damage to Government property for which the Contractor is relieved of liability under the foregoing provisions of this clause, and except for reasonable wear and tear or depreciation, or the utilization of the Government property in accordance with the provisions of this contract, the Contractor assumes the risk of, and shall be responsible for, any loss or destruction of or damage to the Government property, and such property (other than that which is permitted to be sold) shall be returned to the Government in as good condition as when received by the Contractor in connection with this contract, or as repaired under paragraph (f), above.

(6) In the event the Contractor is reimbursed or compensated for any loss or destruction of or damage to the Government property, he shall equitably reimburse the Government. The Contractor shall do nothing to prejudice the Government's rights to recover against third parties for any such loss, destruction, or damage and, upon the request of the Contracting Officer, shall at the Government's expense furnish to the Government all reasonable assistance and cooperation (including assistance in the prosecution of suit and the execution of instruments of assignment in favor of the Government) in obtaining recovery.

(h) The Government, and any persons designated by it, shall at all reasonable times have access to the premises wherein any Government property is located, for the purpose of inspecting the Government property.

(i) Upon completion or expiration of this contract, any Government property which has not been consumed in the performance of this contract, or which has not been disposed of as provided for elsewhere in this clause, or for which the Contractor has not otherwise been relieved of responsibility, shall be disposed of in the same manner, and subject to the same procedures, as is provided in the clause of this contract entitled "Termination for the Convenience of the Government" with respect to termination inventory. The proceeds of any such disposition shall be applied in reduction of any payments to be made by the Government to the Contractor under this contract, or shall otherwise be credited to the price or costs of the work covered by this contract, or shall be paid in such other manner as the Contracting Officer may direct. Pending final disposition of such property, the Contractor agrees to take such action as may be necessary, or as the Contracting Officer may direct, for the protection and preservation thereof.

(j) If the Contractor determines any Government property to be in excess of his needs under this contract, such Government property shall be disposed of in the same manner as provided by paragraph (i), above, except that the Government may abandon any Government property in place and thereupon all obligations of the Government regarding such abandoned property shall cease. The Government has no obligation to the Contractor with regard to restoration or rehabilitation of the Contractor's premises, neither in case of abandonment, disposition pursuant to paragraph (i), above, nor otherwise, except for restoration or rehabilitation costs which are properly included in an equitable adjustment under paragraph (b), above.

(k) All communcations issued pursuant to this clause shall be in writing.

13. REPORTING OF ROYALTIES

If this contract involves any royalty payments in excess of $250 or if the amount of any royalty payment in excess of $250 is reflected in the negotiated price, the Contractor shall report in writing to the Contracting Officer, as soon as practicable during the performance of this contract, the amount of any royalties paid or to be paid by it directly to others in connection with the performance of this contract, together with: (a) The names and addresses of licensors to whom such payments are made; (b) The patent numbers or patent application serial numbers (with filing dates) involved or other identification of the basis of such royalties; and (c) Information concerning the manner of computation of such royalties.

14. AUTHORIZATION AND CONSENT

The Government hereby gives its authorization and consent for all use and manufacture of any invention described in and covered by a patent of the United States in the performance of this contract or any part hereof or any amendment hereto or any subcontract hereunder (including any lower-tier subcontract).

15. NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT

(This clause is applicable to only those contracts which exceed $10,000.)

(a) The Contractor shall report to the Contracting Officer, promptly and in reasonable written detail, each notice or claim of patent or copyright infringement based on the performance of this contract of which the Contractor has knowledge.

(b) In the event of any claim or suit against the Government, on account of any alleged patent or copyright infringement arising out of the performance of this contract or out of the use of any supplies furnished or work or services performed hereunder, the Contractor shall furnish to the Government, when requested by the Contracting Officer, all evidence and information in possession of the Contractor pertaining to such suit or claim. Such evidence and information shall be furnished at the expense of the Government except where the Contractor has agreed to indemnify the Government.

16. RIGHTS IN DATA

(a) *Subject Data.* As used in this clause, the term "Subject Data" means writings, sound recordings, pictorial reproductions, drawings, designs or other graphic representations, procedural manuals, forms, diagrams, workflow charts, equipment descriptions, data files and data processing or computer programs, and works of any similar nature (whether or not copyrighted or copyrightable) which are specified to be delivered under this contract. The term does not include financial reports, cost analyses, and similar information incidental to contract administration.

(b) *Government rights.* Subject only to the proviso of (c) below, the Government may use, duplicate or disclose in any manner and for any purpose whatsoever, and have or permit others to do so, all Subject Data delivered under this contract.

(c) *License to copyrighted data.* In addition to the Government rights as provided in (b) above, with respect to any subject data which may be copyrighted the Contractor agrees to and does hereby grant to the Government a royalty-free, nonexclusive and irrevocable license throughout the world to use, duplicate or dispose of such data in any manner and for any purpose whatsoever, and to have or permit others to do so: *Provided, however,* That such license shall be only to the extent that the Contractor now has, or prior to completion or final settlement of this contract may acquire, the right to grant such license without becoming liable to pay compensation to others solely because of such grant.

(d) *Relation to patents.* Nothing contained in this clause shall imply a license to the Government under any patent or be construed as affecting the scope of any license or other right otherwise granted to the Government under any patent.

(e) *Marking and identification.* The Contractor shall mark all Subject Data with the number of this contract and the name and address of the contractor or subcontractor who generated the data. The Contractor shall not affix any restrictive markings upon any Subject Data, and if such markings are affixed, the Government shall have the right at any time to modify, remove, obliterate, or ignore any such markings.

(f) *Subcontractor data.* Whenever any Subject Data is to be obtained from a subcontractor under this contract, the Contractor shall use this same clause in the subcontract, without alteration, and no other clause shall be used to enlarge or diminish the Government's rights in that subcontractor Subject Data.

(g) *Deferred ordering and delivery of data.* The Government shall have the right to order, at any time during the performance of this contract, or within 2 years from either acceptance of all items (other than data) to be delivered under this contract or termination of this contract, whichever is later, any Subject Data and any data not called for in the schedule of this contract but generated in performance of the contract, and the Contractor shall promptly prepare and deliver such data as is ordered. If the principal investigator is no longer associated with the Contractor, the Contractor shall exercise its best efforts to prepare and deliver such data as is ordered. The Government's right to use data delivered pursuant to this paragraph (g) shall be the same as the rights in Subject Data as provided in (b) above. The Contractor shall be relieved of the obligation to furnish data pertaining to an item obtained from a subcontractor upon the expiration of 2 years from the date he accepts such items. When data, other than Subject Data, is delivered pursuant to this paragraph (g), payment shall be made, by equitable adjustment or otherwise, for converting the data into the prescribed form, reproducing it or preparing it for delivery.

NOTE: If the contract has been awarded by the Office of Education, the above clause is deleted and the following substituted therefor:

16A. COPYRIGHT AND PUBLICATION

(a) The term "materials" as used herein means: (1) "Final material" is material which has been developed to the extent intended under the contract, and (2) "Material" means copyrightable work resulting from the contract.

(b) It is the policy of the Office of Education that the results of activities supported by it should be utilized in the manner which would best serve the public interest. To that end, except as provided in paragraph (c) the Contractor shall not assert any rights of common law or statutory copyright in such materials; and all such materials shall be made freely available to the Government, the education community, and the general public.

(c) Notwithstanding the provisions of paragraph (b) above, upon request of the Contractor or his authorized designee, arrangements for copyright of time may be authorized by the Commissioner, through the Contracting Officer, upon showing satisfactorily to the Office of Education that such protection will result in more effective development or dissemination of the materials and would be in the public interest.

(d) With respect to any materials for which the securing of a copyright protection is authorized under paragraph (c), the Contractor hereby grants a royalty-free, nonexclusive and irrevocable license to deliver, perform, use, and dispose of all such materials, and to make any use of it.

(e) To the extent that the Contractor has the right and permission to do so, the Contractor hereby grants to the Government a royalty-free, nonexclusive and irrevocable license to use in any manner, copyrighted material not first produced in the performance of this contract, but which is incorporated in the materials. The contractor shall advise the Contracting Officer of any such copyrighted material known to it not to be covered by such a license.

17. PATENT RIGHTS

(i) If the contract is with a nonprofit or educational institution for basic or applied research, the following clause is applicable:

17A. PATENT RIGHTS—DEFERRED (SHORT FORM)

(a) *Definitions.* "Subject Invention" means any invention or discovery of the Contractor conceived or first actually reduced to practice in the course of or under this contract, and includes any art, method, process, machine, manufacture, design, or composition of matter, or any new and useful improvement thereof, or any variety of plant which is or may be patentable under the Patent Laws of the United States of America or any foreign country.

(b) *Invention disclosures and reports.* (1) The Contractor shall furnish the Contracting Officer:

(i) A complete technical disclosure for each Subject Invention, within 6 months after conception or first actual reduction to practice, whichever occurs first in the course of or under the contract, but in any event prior to any sale, public use, or publication of the invention known to the Contractor. The disclosure shall identify the contract and inventor, and shall be sufficiently complete in technical detail and appropriately illustrated by sketch or diagram to convey to one skilled in the art to which the invention pertains a clear understanding of the nature, purpose, operation, and to the extent known, the physical, chemical, biological, or electrical characteristics of the invention;

(ii) Interim reports at least every 12 months from the date of the contract listing Subject Inventions for the period and certifying that all Subject Inventions have been disclosed or that there are no such inventions; and

(iii) An acceptable final report within 3 months after completion of the contract work, listing all Subject Inventions or certifying that there were no such inventions.

(2) The Contractor agrees that the Government may duplicate and disclose Subject Invention disclosures and all other reports and papers furnished or required to be furnished pursuant to this clause.

(c) *Allocation of principal rights.* (1) After a Subject Invention is identified, the Contractor agrees to assign to the Government the entire right, title, and interest therein throughout the world except to the extent that rights are retained by the Contractor under paragraphs (c)(2) and (d) of this clause.

(2) The Contractor or the employee inventor with authorization of the Contractor may retain greater rights than the nonexclusive license provided in paragraph (d) of this clause in accordance with the procedure and criteria of 41 CFR 1-9.109-6. A request for a determination of whether the Contractor or the employee-inventor is entitled to retain such greater rights must be submitted to the Contracting Officer at the time of the first disclosure of the invention pursuant to paragraph (b)(1) of this clause, or not later than 3 months thereafter or such longer period as may be authorized by the Contracting Officer for good cause shown in writing by the Contractor. The information to be submitted for a greater rights determination is specified in 41 CFR 1-9.109-3. Each determination of greater rights under this contract shall be subject to the provisions of paragraph (c) "Minimum rights acquired by the Government" of the clause in 41 CFR 1-9.107-5(a), and to the reservations and conditions deemed appropriate by the agency.

(d) *Minimum rights to the Contractor.* The Contractor reserves a revocable, nonexclusive, royalty-free license in each patent application filed in any country on a Subject Invention and any resulting patent in which the Government acquires title. Revocation shall be in accordance with the procedure of the clause in 41 CFR 1-9.107-5(d) (2) and (3).

(e) *Employee and Subcontractor Agreements.* Unless otherwise authorized in writing by the Contracting Officer, the Contractor shall:

(1) Obtain patent agreements to effectuate the provisions of this clause from all persons who perform any part of the work under this contract except non-technical personnel, such as clerical employees and manual laborers.

(2) Insert in each subcontract having experimental, developmental, or research work as one of its purposes provisions making this clause applicable to the Subcontractor and his employees; and (3) Promptly notify the Contracting Officer of the award of any such subcontract by providing him with a copy of the subcontract and any amendments thereto.

(ii) If the contract is with a commercial organization, the following clause is applicable:

17B. PATENT RIGHTS—DEFERRED (LONG FORM)

(a) *Definitions.* (1) "Subject Invention" means any invention or discovery of the Contractor conceived or first actually reduced to practice in the course of or under this contract, and includes any art, method, process, machine, manufacture, design, or composition of matter or any new and useful improvement thereof, or any variety of plant, which is or may be patentable under the Patent Laws of the United States of America or any foreign country.

(2) "Contract" means any contract, agreement, grant, or other arrangement, or subcontract entered into with or for the benefit of the Government where a purpose of the contract is the conduct of experimental, developmental, or research work.

(3) "States and domestic municipal governments" means the States of the United States, the District of Columbia, Puerto Rico, the Virgin Islands, American Samoa, Guam, the Trust Territory of the Pacific Islands, and any political subdivisions and agencies thereof.

(4) "Government agency" includes an executive department, independent commission, board, office, agency, administration, authority, Government corporation, or other Government establishment of the executive branch of the Government of the United States of America.

(5) "To the point of practical application" means to manufacture in the case of a composition or product, to practice in the case of a process, or to operate in the case of a machine and under such conditions as to establish that the invention is being worked and that its benefits are reasonably accessible to the public.

(b) *Allocation of principal rights.* (1) *Assignment to the Government.*—After a Subject Invention is identified, the Contractor agrees to assign to the Government the entire right, title, and interest therein throughout the world except to the extent that greater rights are retained by the Contractor under paragraphs (b)(2) and (d) of this clause.

(2) *Greater rights determinations.* The Contractor, or the employee-inventor with authorization of the Contractor, may retain greater rights than the non-exclusive license provided in paragraph (d) of this clause in accordance with the procedure and criteria of 41 CFR 1-9.109-6. A request for a determination of whether the Contractor or the employee-inventor is entitled no retain such greater rights must be submitted to the Contracting Officer at the time of first disclosure of the invention pursuant to paragraph (e)(2)(1) of this clause, or not later than 3 months thereafter or such longer period as may be authorized by the Contracting Officer for good cause shown in writing by the Contractor. The information to be submitted for a greater rights determination is specified in 41 CFR 1-9.106-6. Each determination of greater rights under this contract normally shall be subject to paragraph (c) of this clause and to the reservations and conditions deemed to be appropriate by the agency.

(c) *Minimum rights acquired by the Government.* With respect to each Subject Invention to which the Contractor retains principal or exclusive rights, the Contractor:

(1) Hereby grants to the Government a nonexclusive, nontransferable, paid-up license to make, use, and sell each Subject Invention throughout the world by or on behalf of the Government of the United States (including any Government agency) and States and domestic municipal governments;

(2) Agrees to grant to responsible applicants, upon request of the Government, a license on terms that are reasonable under the circumstances;

(i) Unless the Contractor, his licensee, or his assignee demonstrates to the Government that effective steps have been taken within 3 years after a patent issues on such invention to bring the invention to the point of practical application, or that the invention has been made available for licensing royalty-free or on terms that are reasonable in the circumstances, or can show cause why the principal or exclusive rights should be retained for a further period of time; or

(ii) To the extent that the invention is required for public use by governmental regulations or as may be necessary to fulfill public health, safety or welfare needs, or for other public purposes stipulated in this contract;

(3) Shall submit written reports at reasonable intervals upon request of the Government during the term of the patent on the Subject Invention regarding:

(i) The commercial use that is being made or is intended to be made of the invention; and

(ii) The steps taken by the Contractor or his transferee to bring the invention to the point of practical application or to make the invention available for licensing;

(4) Agrees to refund any amounts received as royalty charges on any Subject Invention in procurements for or on behalf of the Government and to provide for that refund in any instrument transferring rights to any party in the invention; and

(5) Agrees to provide for the Government's paid-up license pursuant to paragraph (c) (1) of this clause in any instrument transferring rights in a Subject Invention and to provide for the granting of licenses as required by (2) of this clause, and for the reporting of utilization information as required by paragraph (c)(3) of this clause whenever the instrument transfers principal or exclusive rights in any Subject Invention.

Nothing contained in this paragraph (c) shall be deemed to grant to the Government any rights with respect to any invention other than a Subject Invention.

(d) *Minimum rights to the Contractor*. (1) The Contractor reserves a revocable, nonexclusive, royalty-free license in each patent application filed in any country on a Subject Invention and any resulting patent in which the Government acquires title. The license shall extend to the Contractor's domestic subsidiaries and affiliates, if any, within the corporate structure of which the Contractor is a part and shall include the right to grant sublicenses of the same scope to the extent the Contractor was legally obligated to do so at the time the contract was awarded. The license shall be transferable only with approval of the agency except when transferred to the successor of that part of the Contractor's business to which the invention pertains.

(2) The Contractor's nonexclusive domestic license retained pursuant to paragraph (d)(1) of this clause may be revoked or modified by the agency to the extent necessary to achieve expeditious practical application of the Subject Invention under 41 CFR 101–4.103–3 pursuant to an application for exclusive license submitted in accordance with 41 CFR 101–4.104–3. This license shall not be revoked in that field of use and/or the geographical areas in which the Contractor has brought the invention to the point of practical application and continues to make the benefits of the invention reasonably accessible to the public. The Contractor's nonexclusive license in any foreign country reserved pursuant to paragraph (d)(1) of this clause may be revoked or modified at the discretion of the agency to the extent the Contractor or his domestic subsidiaries or affiliates have failed to achieve the practical application of the invention in that foreign country.

(3) Before modification or revocation of the license, pursuant to paragraph (d)(2) of this clause, the agency shall furnish the Contractor a written notice of its intention to modify or revoke the license, and the Contractor shall be allowed 30 days (or such longer period as may be authorized by the agency for good cause shown in writing by the Contractor) after the notice to show cause why the license should not be modified or revoked. The Contractor shall have the right to appeal, in accordance with procedures prescribed by the agency, any decision concerning the modification or revocation of his license.

(e) *Invention, identification, disclosures, and reports*. (1) The Contractor shall establish and maintain active and effective procedures to ensure that Subject Inventions are promptly identified and timely disclosed. These procedures shall include the maintenance of laboratory notebooks or equivalent records and any other records that are reasonably necessary to document the conception and/or the first actual reduction to practice of Subject Inventions, and records which show that the procedures for identifying and disclosing the inventions are followed. Upon request, the Contractor shall furnish the Contracting Officer a description of these procedures so that he may evaluate and determine their effectiveness.

(2) The Contractor shall furnish the Contracting Officer:

(i) A complete technical disclosure for each Subject Invention within 6 months after conception or first actual reduction to practice whichever occurs first in the course of or under the contract, but in any event prior to any sale, public use, or publication of such invention known to the Contractor. The disclosure shall identify the contract and inventor and shall be sufficiently complete in technical detail and appropriately illustrated by sketch or diagram to convey to one skilled in the art to which the invention pertains a clear understanding of the nature, purpose, operation, and, to the extent known, the physical, chemical, biological, or electrical characteristics of the invention;

(ii) Interim reports, at least every 12 months from the date of the contract listing Subject Inventions for that period and certifying that:

(A) The Contractor's procedures for identifying and disclosing Subject Inventions as required by this paragraph (e) have been followed throughout the reporting period; and

(B) All Subject Inventions have been disclosed or that there are no such inventions; and

(iii) A final report, within 3 months after completion of the contract work, listing all Subject Inventions or certifying that there were no such inventions.

(3) The Contractor shall obtain patent agreements to effectuate the provisions of this clause from all persons in his employ who perform any part of the work under this contract except nontechnical personnel, such as clerical employees and manual laborers.

(4) The Contractor agrees that the Government may duplicate and disclose Subject Invention disclosures and all other reports and papers furnished or required to be furnished pursuant to this clause.

(f) *Forfeiture or rights in unreported Subject Inventions*. (1) The Contractor shall forfeit to the Government all rights in any Subject Invention which he fails to disclose to the Contracting Officer within 6 months after the time he:

(i) Files or causes to be filed a United States or foreign application thereon; or

(ii) Submits the final report required by paragraph (e)(2)(iii) of this clause, whichever is later.

(2) However, the Contractor shall not forfeit rights in a Subject Invention if within the time specified in (1)(i) or (1)(ii) of this paragraph (f) the Contractor:

(i) Prepared a written decision based upon a review of the record that the invention was neither conceived nor first actually reduced to practice in the course of or under the contract; or

(ii) Contending that the invention is not a Subject Invention, he nevertheless discloses the invention and all facts pertinent to his contention to the Contracting Officer; or

(iii) Establishes that the failure to disclose did not result from his fault or negligence.

(3) Pending written assignment of the patent applications and patents on a Subject Invention determined by the Contracting Officer to be forfeited (such determination to be a final decision under the Disputes Clause), the Contractor shall be deemed to hold the invention and the patent applications and patents pertaining thereto in trust for the Government. The forfeiture provision of this paragraph (f) shall be in addition to and shall not supersede other rights and remedies which the Government may have with respect to Subject Inventions.

(g) *Examination of records relating to inventions*. (1) The Contracting Officer or his authorized representative until the expiration of 3 years after final payment under this contract shall have the right to examine any books (including laboratory notebooks), records, documents, and other supporting data of the Contractor which the Contracting Officer reasonably deems pertinent to the discovery or identification of Subject Inventions or to determine compliance with the requirements of this clause.

(2) The Contracting Officer shall have the right to review all books (including laboratory notebooks), records and documents of the Contractor relating to the conception or first actual reduction to practice of inventions in the same field of technology as the work under this contract to determine whether any such inventions are Subject Inventions if the Contractor refuses or fails to:

(i) Establish the procedures of paragraph (e)(1) of this clause; or

(ii) Maintain and follow such procedures; or

(iii) Correct or eliminate any material deficiency in the procedures within thirty (30) days after the Contracting Officer notifies the Contractor of such a deficiency.

(h) *Withholding of payment (Not applicable to Subcontracts)*. (1) Any time before final payment of the amount of this contract, the Contracting Officer may, if he deems such action warranted, withhold payment until a reserve not exceeding $50,000 or 5 percent of the amount of this contract, whichever is less, shall have been set aside if in his opinion the Contractor fails to:

(i) Establish, maintain, and follow effective procedures for identifying and disclosing Subject Inventions pursuant to paragraph (e)(1) of this clause; or

(ii) Disclose any Subject Invention pursuant to paragraph (e)(2)(i) of this clause; or

(iii) Deliver acceptable interim reports pursuant to paragraph (e)(2)(ii) of this clause; or

(iv) Provide the information regarding subcontracts pursuant to paragraph (i)(5) of this clause.

The reserve or balance shall be withheld until the Contracting Officer has determined that the Contractor has rectified whatever deficiencies exist and has delivered all reports, disclosures, and other information required by this clause.

(2) Final payment under this contract shall not be made before the Contractor delivers to the Contracting Officer all disclosures of Subject Inventions required by paragraph (e)(2)(i) of this clause, and an acceptable final report pursuant to (e)(2)(iii) of this clause.

(3) The Contracting Officer may, in his discretion, decrease or increase the sums withheld up to the maximum authorized above. If the Contractor is a nonprofit organization the maximum amount that may be withheld under this paragraph shall not exceed $50,000 or 1 percent of the amount of this contract whichever is less. No amount shall be withheld under this paragraph while the amount specified by this paragraph is being withheld under other provisions of the contract. The withholding of any amount or subsequent payment thereof shall not be construed as a waiver of any rights accruing to the Government under this contract.

(i) *Subcontracts.* (1) For the purpose of this paragraph the term "Contractor" means the party awarding a subcontract and the term "Subcontractor" means the party being awarded a subcontract, regardless of tier.

(2) Unless otherwise authorized or directed by the Government Contracting Officer, the Contractor shall include this Patent Rights clause modified to identify the parties in any subcontract hereunder if a purpose of the subcontract is the conduct of experimental, developmental, or research work. In the event of refusal by a Subcontractor to accept this clause, or if in the opinion of the Contractor this clause is inconsistent with the policy set forth in 41 CFR 1-1.107-3, the Contractor:

(i) Shall promptly submit a written notice to the Government Contracting Officer setting forth reasons for the Subcontractor's refusal and other pertinent information which may expedite disposition of the matter; and

(ii) Shall not proceed with the subcontract without the written authorization of the Government Contracting Officer.

(3) The Contractor shall not, in any subcontract or by using a subcontract as consideration therefor, acquire any rights in his Subcontractor's Subject Invention for his own use (as distinguished from such rights as may be required solely to fulfill his contract obligations to the Government in the performance of this contract).

(4) All invention disclosures, reports, instruments, and other information required to be furnished by the Subcontractor to the Government Contracting Officer under the provisions of a Patent Rights clause in any subcontract hereunder may, in the discretion of the Government Contracting Officer, be furnished to the Contractor for transmission to the Government Contracting Officer.

(5) The Contractor shall promptly notify the Government Contracting Officer in writing upon the award of any subcontract containing a Patent Rights clause by identifying the Subcontractor, the work to be performed under the subcontract, and the dates of award and estimated completion. Upon request of the Government Contracting Officer, the Contractor shall furnish a copy of the subcontract. If there are no subcontracts containing Patent Rights Clauses, a negative report shall be included in the final report submitted pursuant to paragraph (e)(2)(iii) of this clause.

(6) The Contractor shall identify all Subject Inventions of the Subcontractor of which he acquires knowledge in the performance of this contract and shall notify the Government Contracting Officer promptly upon the identification of the inventions.

(7) It is understood that the Government is a third party beneficiary of any subcontract clause granting rights to the Government in Subject Inventions, and the Contractor hereby assigns to the Government all rights that he would have to enforce the Subcontractor's obligations for the benefit of the Government with respect to Subject Inventions. The Contractor shall not be obligated to enforce the agreements of any Subcontractor hereunder relating to the obligations of the Subcontractor to the Government in regard to Subject Inventions.

18. PUBLICATION AND PUBLICITY

(a) Unless otherwise specified in this contract, the Contractor is encouraged to publish and make available through accepted channels the results of its work under this contract. A copy of each article submitted by the Contractor for publication shall be promptly sent to the Project Officer. The Contractor shall also inform the Project Officer when the article or other work is published and furnish a copy of it as finally published.

(b) The Contrator shall acknowledge the support of the Department of Health, Education, and Welfare whenever publicizing the work under this contract in any media. To effectuate the foregoing, the Contractor shall include in any publication resulting from work performed under this contract an acknowledgement substantially as follows:

"This project has been funded at least in part with Federal funds from the Department of Health, Education, and Welfare under contract number ———. The content of this publication does not necessarily reflect the views or policies of the Department of Health, Education, and Welfare, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government."

19. INSPECTION

(i) When the primary objective of the contract is drawings, designs, or reports, the following clause is applicable:

The Government through any authorized representatives, has the right, at all reasonable times, to inspect, or otherwise evaluate the work performed or being performed hereunder and the premises in which it is being performed. If any inspection or evaluation is being made by the Government on the premises of a Contractor or a subcontractor the Contractor shall provide and shall require the subcontractors to provide all reasonable facilities and assistance for the safety and convenience of the Government representatives in the performance of their duties. All inspections and evaluations shall be performed in such a manner as will not unduly delay the work.

(ii) When the primary objective of the contract is delivery of end items other than drawings, designs or reports, the following clause is applicable:

(a) All work under this contract shall be subject to inspection and test by the Government to the extent practicable at all times (including the period of performance) and places, and in any event prior to acceptance. The Government through any authorized representative may inspect the premises of the Contractor or any subcontractor engaged in the performance of this contract.

(b) The Government may reject any work that is defective or otherwise not in conformity with the requirements of this contract. If the Contractor fails or is unable to correct or to replace such work, the Contracting Officer may accept such work at a reduction in price which is equitable under the circumstances. Failure to agree on the reduction in price shall be a dispute concerning a question of fact within the meaning of the clause of this contract entitled "Disputes."

(c) If any inspection or test is made by the Government on the premises of the Contractor of a subcontractor, the Contractor shall provide, without additional charge, all reasonable facilities and assistance for the safety and convenience of the Government inspectors in the performance of their duties. If the Government inspection or test is made at a point other than the premises of the Contractor or subcontractor, it shall be at the expense of the Government. All inspections and tests by the Government shall be performed in such a manner as not to unduly delay the work. Final inspection and acceptance or rejection of the work shall be made as promptly as practicable after delivery except as otherwise provided in this contract; but failure to inspect and accept, or reject the work shall neither relieve the Contractor from responsibility for such of the work as is not in accordance with the contract requirements nor impose liability on the Government therefor.

(d) The inspection and test by the Government of any work shall not relieve the Contractor from any responsibility regarding defects or other failures to meet the contract requirements which may be discovered prior to acceptance. Except as otherwise provided in this contract, acceptance shall be conclusive except as regards latent defects, fraud, or such gross mistakes as amount to fraud.

(e) The Contractor shall provide and maintain an inspection system acceptable to the Government covering the work hereunder. Records of all inspection work by the Contractor shall be kept complete and available to the Government during the performance of this contract and for such longer period as may be specified elsewhere in this contract.

20. FEDERAL REPORTS ACT

(a) In the event that it subsequently becomes a contractual requirement to collect or record information calling either for answers to identical question from 10 or more persons other than Federal employees, or information from Federal employees which is to be used for statistical compilations of general public interest, the Federal Reports Act shall apply to this contract. No plan, questionnaire, interview guide or other similar device for collecting information (whether repetitive or single-time) may be used without first obtaining clearance from the Office of Management and Budget (OMB).

(b) The contractor shall obtain the required OMB clearance through the Project Officer before expending any funds or making public contracts for the collection of data. The authority to expend funds and to proceed with the collection of data shall be in writing by the Contracting Officer. The Contractor must plan at least 90 days for OMB clearance. Excessive delay caused by the Government which arises out of causes beyond the control and without the fault or negligence of the contractor will be considered in accordance with Clause 10—Default, subparagraph (c).

21. PRINTING

Unless otherwise specified in this contract, the Contractor shall not engage in, nor subcontract for, any printing (as that term is defined in Title I of the Government Printing and Binding Regulations in effect on the effective date of this contract) in connection with the performance of work under this contract: *Provided, however,* That performance of a requirement under this contract involving the reproduction of less than 5,000 production units of any one page or less than 25,000 production units in the aggregate of multiple pages, will not be deemed to be printing. A production unit is defined as one sheet, size 8 by 10½ inches one side only, one color.

22. ASSIGNMENT OF CLAIMS

(Text of this clause is set forth in FPR 1-30.703)

23. CONTRACT WORK-HOURS AND SAFETY STANDARDS ACT—OVERTIME COMPENSATION

(Text of this clause is set forth in FPR 1-12.303)

24. WALSH-HEALY PUBLIC CONTRACTS ACT

(Text of this clause is set forth in FPR 1-12.605)

25. EQUAL OPPORTUNITY

(i) (The following clause is applicable unless this contract is exempt under the rules, regulations, and relevant orders of the Secretary of Labor (41 CFR, ch. 60).)

During the performance of this contract, the Contractor agrees as follows:

(a) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Contracting Officer setting forth the provisions of this Equal Opportunity clause.

(b) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, sex, or national origin.

(c) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency Contracting Officer, advising the labor union or workers' representative of the Contractor's commitments under this Equal Opportunity clause, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(d) The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

(e) The Contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(f) In the event of the Contractor's noncompliance with the Equal Opportunity clause of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended, in whole or in part, and the Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

(g) The Contractor will include the provisions of paragraphs (a) through (g) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing provisions, including sanctions for noncompliance: *Provided, however,* That in the event the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

(ii) If this contract is with a state or local government, this clause applies only to agency, instrumentality, or subdivision of government (jurisdiction) which participates in work on or under the contract.

26. CONVICT LABOR

(Text of this clause is set forth in FPR 1-12.204.)

27. OFFICIALS NOT TO BENEFIT

(Text of this clause is set forth in FPR 1-7.102-17)

28. COVENANT AGAINST CONTINGENT FEES

(Text of this clause is set forth in FPR 1-1.503.)

29. BUY AMERICAN SUPPLY AND SERVICE CONTRACTS

(Text of this clause is set forth in FPR 1-6.104-5)

30. UTILIZATION OF SMALL BUSINESS CONCERNS

(Text of this clause is set forth in FPR 1-1.710-3(a))

31. UTILIZATION OF LABOR SURPLUS AREA CONCERNS

(Text of this clause is set forth in FPR 1-1.805-3(a))

32. UTILIZATION OF MINORITY BUSINESS ENTERPRISES

(Text of this clause is set forth in FPR 1-1.1310-2(a))

33. PAYMENT OF INTEREST ON CONTRACTOR'S CLAIMS

(Text of this clause is set forth in FPR 1-1.322)

34. LISTING OF EMPLOYMENT OPENINGS

(Text of this clause is set forth in FPR 1-12.1102-2)

35. SUBCONTRACTS

(a) The Contractor shall not enter into subcontracts for any of the work contemplated under this contract without the consent of the contracting officer and subject to such conditions and provisions as he may deem necessary in his discretion, to protect the interests of the Government: *Provided, however,* That notwithstanding the foregoing, unless otherwise provided herein, such consent shall not be required for the purchase by the Contractor of articles, supplies, equipment and services which are both necessary for and merely incidental to the performance of the work required under this contract, *Provided, further,* however, that the aforesaid right of the Contractor to engage in such services shall in no event be construed to permit the Contractor to subcontract with a third party for the performance of any major function contemplated under this contract to be performed by the Contractor, and *Provided, further,* however, that no provision of this clause and no such consent by the Contracting Officer of any subcontract shall be deemed in any event or in any manner to provide for the incurrence of any obligation of the Government in addition to the total contract price.

(b) If the subcontract is subject to the consent of the Contracting Officer, the Contractor shall submit the following with the subcontract for consent.

(i) A description of the items to be furnished by the subcontractor;

(ii) Identification of the proposed subcontractor and an explanation of why and how the proposed subcontractor was selected including the extent of competition obtained;

(iii) The proposed subcontract price; together with the contractor's cost or price analysis thereof; and performance and delivery schedule;

(iv) Identification of the type of subcontract to be used;

(v) The subcontractor's Disclosure Statement or Certificate relating to Cost Accounting Standards when such data are required by other provisions of this contract to be obtained from the subcontractor.

(vi) A memorandum of negotiation which sets forth the principal elements of the subcontract price negotiations. A copy of this memorandum shall be retained in the Contractor's file for the use of Government reviewing authorities. The memorandum shall be in sufficient detail to reflect the most significant considerations controlling the establishment of initial or revised prices. The memorandum should include an explanation of why cost or pricing data was, or was not required;

(vii) Where the total price negotiated differs.

(c) If the subcontract is subject to the consent of the contracting officer and is in the proposed amount of $100,000 or more, the contractor must submit in addition to the items set forth in (b) above, the subcontractor's current, complete and accurate cost or pricing data and Certificate of Current Cost or Pricing Data, when such data and certificates are required by other terms of this contract. If cost or pricing data was submitted and a certificate of cost or pricing data was required, the memorandum shall reflect the extent to which reliance was not placed upon the factual cost or pricing data submitted and the extent to which this data was not used by the Contractor in determining the total price objective and in negotiating the final price. The memorandum shall also reflect the extent to which it was recognized in the negotiation that any cost or pricing data submitted by the subcontractor was not accurate, complete, or current; the action taken by the Contractor and subcontractor as a result; and the effect, if any, of such defective data on the total price negotiated.

36. NOTICE TO THE GOVERNMENT OF DELAYS

Whenever the Contractor has knowledge that any actual or potential situation, including but not limited to labor disputes, is delaying or threatens to delay the timely performance of work under this contract, the contractor shall immediately give written notice thereof, including all relevant information with respect thereto, to the Contracting Officer.

37. EMPLOYMENT OF THE HANDICAPPED

(Text of this clause is set forth in FPR 1-1.1304-1)

38. STANDARDS OF WORK

The Contractor agrees that the performance of work and services pursuant to the requirements of this contract shall conform to high professional standards.

39. COMPETITION IN SUBCONTRACTING

The Contractor shall select subcontractors (including suppliers) on a competitive basis to the maximum extent consistent with the objectives and requirements of the contract.

40. CLEAN AIR AND WATER

(Text of this clause is set forth in FPR 1-1.2302-2.)

2. In Subpart 3-16.50, Forms for Negotiated Procurements § 3-16.5002-4, General Provisions, is deleted and the following is substituted therefor:

§ 3-16.5002-4 General provisions.

The appropriate General Provisions shall be incorporated by the contracting officer in all contracts to which this Subpart 3-16.50 applies:

(a) Form HEW-314 (Rev. 9/76) General Provisions (Negotiated Fixed Price Research and Development Contract). (Note: This form with the deletion of Clause 17, "Patent Rights" should also be used in other types of nonpersonal service contracts, e.g., studies, surveys, and demonstrations in socio-economic areas.)

(b) Form HEW-315 (Rev. 7/76) General Provisions (Negotiated Cost-Reimbursement Contract with Educational Institutions).

(c) Form HEW-315A (Rev. 7/76) General Provisions (Negotiated Cost-Reimbursement Contract With Nonprofit Institutions Other Than Educational Institutions).

(d) Form HEW-316 (Rev. 7/76) General Provisions (Negotiated Cost-Plus-Fixed Fee Contract).

[FR Doc.76-28164 Filed 9-24-76;8:45 am]

Title 43—Public Lands: Interior

SUBTITLE A—OFFICE OF THE SECRETARY OF THE INTERIOR

[Circular No. 2405]

PART 25—JOHNNY HORIZON—USE OF NAME AND SYMBOL

Deletion of Part

The purpose of this amendment is to delete from the regulations 43 CFR Part 25—Johnny Horizon—Use of Name and Symbol. This regulation implemented the act of September 25, 1970 (84 Stat. 870; 18 U.S.C. 714).

The Johnny Horizon program was begun almost eight years ago to enlist the public in a clean-up of trash and litter on the public lands. The program grew and in this bicentennial year bore the title of Johnny Horizon '76 with the motto "Let's Clean Up America for Our 200th Birthday". The Johnny Horizon program has done its job well and has served its period of usefulness.

It is the policy of the Department of the Interior to give notice of proposed rulemaking and to invite the public to participate in rulemaking except where such participation would be impracticable, unnecessary, or contrary to the public interest and a specific finding to this effect is published with the rules or regulations (36 FR 8336, May 4, 1971). Public participation is unnecessary in this case since the rulemaking simply removes from the regulations provisions relating to a program which has been terminated by the Department.

This rulemaking does not exceed the criteria for preparing an Inflation Impact Statement.

Therefore, Part 25 of CFR is deleted from the Code of Federal Regulations effective September 30, 1976.

JOHN KYL,
Acting Secretary of the Interior.

SEPTEMBER 17, 1976.

[FR Doc.76-28137 Filed 9-24-76;8:45 am]

CHAPTER I—BUREAU OF RECLAMATION, DEPARTMENT OF THE INTERIOR

PART 419—ADMINISTRATIVE CLAIMS

Processing Claims for Loss or Damage; Failure of Teton Dam

On July 14, 1976 final regulations were published in the FEDERAL REGISTER (41 FR 29084) governing the processing of claims for actual damages to or loss of property, income, personal injury or for death directly resulting from the failure on June 5, 1976, of Teton Dam of the Lower Teton Division of the Teton Basin Federal Reclamation Project. The regulations were intended to provide payment to the victims of the tragic flood as soon as possible. Interested persons were given 30 days to comment to the Commissioner, Bureau of Reclamation. In addition, the Secretary of the Interior reserved the right to modify the regulations from time to time. Such a modification was made by the Secretary on August 3, 1976 (41 FR 32427). The regulations were revised to provide that: (1) An additional claim may be submitted if the claimant had not discovered and by the exercise of reasonable diligence could not have discovered the damage or injury prior to the authorized officer's determination of the claimant's single original claim; (2) the claimant need not refund or repay amounts received as partial or emergency payments if the claim is withdrawn; (3) if the claimant is unwilling to release the United States, its agents and employees from liability for damages caused by the incident, the claimant may elect to accept payment of 50 percent of the amount determined by the authorized officer without signing a release; and (4) interest on commercial loans incurred because of the incident could be claimed.

The 30-day comment period expired on August 16, 1976. Comments were received from members of the Idaho Congressional delegation, the Veterans Administration, the Department of Justice, and two Idaho law firms. Several comments were received regarding the qualifications for filing an Appropriation Act claim. First, § 419.1-0(a) was criticized because it requires that all claims be accompanied by a request for money damages in a sum certain. The suggestion was made that claims for indeterminable amounts should be allowed, especially in cases of crop losses which are uncertain before the end of the growing season. This suggestion was not adopted because the present regulations allow amendment of claims and the submission of an additional claim when injury or damage is not reasonably discoverable prior to final determination of a claimant's original claim. The claimant also may include in the original claim an estimate of potential loss which might be suffered.

Second, it was suggested that the holder of a secured interest in property ought to be permitted to file a claim for the property. This suggestion was prompted by concern that some property owners with little actual interest in the property may fail to file their claim. The holder of the secured interest, who had a greater actual interest in the property, would be left without security. This suggested change could result in conflicting claims for the same property by holders of secured interests and owners. Such conflicting claims would involve the Government in private financial disputes. The regulations currently protect known holders of secured interests by providing for notice prior to payment to the claimant. For these reasons, this suggested change has not been adopted.

While these comments were being considered, Congress enacted the Teton Dam Disaster Assistance Act of 1976 on August 25, 1976. President Ford signed the bill on September 7, 1976, Pub. L. 94-400, 90 Stat. 1211. This legislation necessitated additional changes in the regulations. The purpose of the Teton Dam Disaster Assistance Act of 1976 is to settle claims for death, personal injury and property damage resulting from the failure of Teton Dam. Congress believed that in spite of the authority and funding providing for the payment of claims by the Public Works Appropriation Act, Pub. L. 94-355, 90 Stat. 889, specific new authorizing legislation was more comprehensive. The Teton Dam Disaster Assistance Act provides a definite procedure for compensation. The basic structure of the regulations issued under the Public Works Appropriations Act has been retained. However, the regulations are now based on the specific requirements of the Teton Dam Disaster Assistance Act. Publication of these revised regulations shall constitute final regulations and procedures for the handling of claims as required by section 5 of the Teton Dam Disaster Assistance Act, Pub. L. 94-400, 90 Stat. 1211.

In response to these comments, suggestions made by field personnel of the Bureau of Reclamation, further consideration of the regulations, and the provisions of the Teton Dam Disaster Assistance Act of 1976, the following changes have been made in the regulations:

1. A definition of "actual pecuniary loss" has been added to § 419.0-5 in order to clarify § 419.9 of the regulations

relating to the limitation of damages in death and personal injury cases. Section 419.9 (b) and (c) have been amended to reflect this clarification. The intention of this program is to compensate claimants for direct monetary losses. These changes are designed to reflect this intention more clearly.

2. A new definition of "administrative claim" in § 419.0–5(b) replaces § 419.0–5 (a), "Appropriation Act claim," in order to conform to the Teton Dam Disaster Assistance Act.

3. The definition of "claimant" has been expanded to include Indians, Indian tribes, partnerships, municipalities, townships, associations and other non-Federal entities.

4. The definition of "major disaster area" for the purpose of these regulations, has been expanded to include a portion of the Fort Hall Indian Reservation.

5. Section 419.1–0(d) has been deleted. The question of withdrawal of a claim is now addressed in a new § 419.11, Election of remedies.

6. Several comments requested clarification of § 419.1–2 on who may file. Many owners of damaged property would like to sell it in order to immediately begin rebuilding. The regulations required that the owner of the property file the claim without stating the determinative date of ownership. A clause has been added to § 419.1–2 to indicate that the owner "at the time of the incident" may file the claim. A similar addition has been made in § 419.1–3(d) (1) relating to proof of ownership.

7. In order to simplify the administration of the claims program, § 419.2–0(a) (2) has been revised. The claims officer shall submit a summary analysis of the claim rather than a recommended disposition. In addition, a new paragraph (c) has been added to § 419.2–1 which allows the claimant to file a motion for reconsideration with the authorized officer. This gives the authorized officer an initial chance to review his own work prior to review by the Office of Hearings and Appeals.

8. Section 419.5 has been revised to clarify the appeals process. First, the word "appeal" is used rather than "request for reconsideration" to distinguish appeals to the Office of Hearings and Appeals from motions for reconsideration by the authorized officer.

9. A sentence has been added to § 419.6 (d) in response to a number of comments requesting that lienholders be made joint payees on all payment vouchers. The added sentence specifies that the authorized officer may make the holder of a secured interest a joint payee if it is appropriate or desirable in the circumstances.

10. Section 419.7(d) has been clarified by adding references to actions against the United States on the claim instituted in courts of competent jurisdiction. The claimant may elect to accept payment of 50 percent of the amount determined by the authorized officer or the Office of Hearings and Appeals before proceeding with either an administrative appeal of the authorized officer's determination or court action. Judicial proceedings may only be instituted following final agency action. In either case, the remaining 50 percent of the amount determined by the authorized officer, or whatever amount is determined by the Office of Hearings and Appeals or the court, will be paid to the claimant under § 419.6 upon final decision of the Office of Hearings and Appeals or upon final judicial decision. The claimant must repay or refund to the Treasury any amount by which the advance payment exceeds the amount found to be due by the Office of Hearings and Appeals or the court. If the claimant fails to file a timely appeal or to take timely action against the United States or fails to prosecute the appeal or action, a payment voucher for the remaining 50 percent of the amount determined by the authorized officer or the Office of Hearings and Appeals shall be sent to the claimant. The voucher in such cases must be returned within 45 days or no payment will be made and all claim to further payment shall be waived.

11. Section 419.9 (b) and (c) have been revised. The measure of damages for both personal injury and death shall be actual pecuniary loss.

12. A new § 419.11 has been added on election of remedies. Subsequent sections have been recodified. The new section explains the effect of the withdrawal of administrative claims and the effect of instituting actions against the United States.

Title 43 CFR Part 419 is hereby republished in order to combine the numerous amendments made in Part 419 since it was published on July 14, 1976 (41 FR 29084) and for reader convenience.

In consideration of the comments received and pursuant to the authority contained in the Annual Public Works Appropriation Act of 1976, Pub. L. 94–180, 89 Stat. 1035; the Act of July 12, 1976, 90 Stat. 889; the Act of June 17, 1902, 32 Stat. 390, as amended; and the Teton Dam Disaster Assistance Act of 1976, Pub. L. 94–400, 90 Stat. 1211, 43 CFR Part 419 is revised, amended, and republished as follows, effective immediately.

Dated: September 22, 1976.

Chris Farrand,
Acting Assistant Secretary of the Interior.

Sec.
419.0–1 Purpose.
419.0–2 Policy.
419.0–3 Scope of regulations.
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419.1 Administrative claims.
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419.8 Limitation of relief to avoid duplication of benefits.
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419.8–2 Duplication of federal benefits.
419.9 Limitation of damages.
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419.11 Election of remedies.
419.12 Publication.
419.13 Severability.

Authority: The Annual Public Works Appropriation Act of 1976, Pub. L. 94–180, 89 Stat. 1035; the Act of July 12, 1976, 90 Stat. 889; the Act of June 17, 1902, 32 Stat. 390 as amended; the Teton Dam Disaster Assistance Act of 1976, Pub. L. 94–400, 90 Stat. 1211.

§ 419.0–1 Purpose.

To provide for the payment of claims for actual damages to or loss of property, income, personal injury, or for death directly resulting from the failure on June 5, 1976, of the Teton Dam of the Lower Teton Division of the Teton Basin Federal Reclamation Project which was authorized by the Act of September 7, 1964 (78 Stat. 925).

§ 419.0–2 Policy.

(a) The policy of the Department shall be to provide for the expeditious resolution of meritorious claims under the provisions of the Annual Public Works Appropriation Act of 1976, Pub. L. 94–180, 89 Stat. 1035, the Act of July 12, 1976, 90 Stat. 889, and the Teton Dam Disaster Assistance Act of 1976, Pub. L. 94–400, 90 Stat. 1211.

(b) If a claim for damages has been paid in whole or in part under any policy of insurance or from any other source whether public or private, for which there is no obligation to repay, the authorized officer shall deduct such payment(s) from any amount determined to be payable under these regulations. If a claim for damages is payable in whole or in part under any policy of insurance, no payment shall be made on the claim until the claimant has provided written proof that the insurer has denied the claim, and the claimant assigns to the United States, his rights thereto under the policy.

(c) Neither the promulgation of these regulations, nor payment of any claim under them in whole or in part shall constitute any admission of liability by the United States. No provision of these regulations shall be construed as providing or creating a right of action against the United States, its agents or employees, nor shall these regulations be construed as waiving or extending any applicable statute of limitations or any other requirement prerequisite to any such right of action.

§ 419.0–3 Scope of regulations.

These regulations shall apply only to payments requested from the United States under the Annual Public Works Appropriation Act of 1976, Pub. L. 94–180, 89 Stat. 1035, the Act of July 12, 1976, 90 Stat. 889 and the Teton Dam Disaster Assistance Act of 1976, Pub. L. 94–400, 90 Stat. 1211. These regulations do not apply to claims asserted against the United States solely under the Annual Public Works Appropriation Act of 1976, Pub. L. 94–180, 89 Stat. 1035, and the Act of June 17, 1902, 32 Stat. 390 as amended.

§ 419.0–1 Authority.

(a) The Annual Public Works Appropriation Act of 1976, Pub. L. 94–180, 89 Stat. 1035.

(b) The Act of July 12, 1976, 90 Stat. 889.

(c) The Act of June 17, 1902, 32 Stat. 390 as amended.

(d) The Teton Dam Disaster Assistance Act of 1976, Pub. L. 94–400, 90 Stat. 1211.

§ 419.0–5 Definitions.

(a) "Actual pecuniary loss" means those monetary losses proximately caused by the failure of the Teton Dam on June 5, 1976, including medical, dental, hospital, burial and funeral expenses, lost wages and expected loss of income. Actual damages shall not include bodily pain, suffering, worry, physical disfigurement, mental distress, grief, anguish, consortium, protection, personal services, comfort, society, companionship, welfare, support, happiness, bodily care, intellectual training, moral training, advice or guidance.

(b) "Administrative claim" means any request for payment made under these regulations, the Annual Public Works Appropriation Act of 1976, Pub. L. 94–180, 89 Stat. 1035, the Act of July 12, 1976, 90 Stat. 889, or the Teton Dam Disaster Assistance Act of 1976, Pub. L. 94–400, 90 Stat. 1211.

(c) "Assistance from other means" means any monetary assistance or grant that the claimant is under no obligation to repay and which has been received from any other Federal, State or local government program(s), under any policy of insurance, from any voluntary or charitable organization(s), or from any sources other than those of the claimant.

(d) "Authorized officer" means an officer of the Department authorized by the Secretary to determine claims under the regulations in this part.

(e) "Bureau" means the Bureau of Reclamation.

(f) "Claimant" means any person (including the decedent in the case of death), Indian, Indian tribe, corporation, partnership, company, association, county, township or other non-Federal entity or its legal representative who suffered actual damage(s) to or loss of property, income, personal injury, or death directly resulting from the failure of Teton Dam on June 5, 1976, and who requests payment under these regulations. No insurer with either whole or partial rights of a subrogee or any person who is an assignee of another may be a claimant under these regulations.

(g) "Claims officer" means any person authorized by the Commissioner, Bureau of Reclamation to investigate and verify claims for damage, injury or loss.

(h) "Department" means the Department of the Interior.

(i) "Federal agency" means any department, independent establishment, Government corporation, or other agency of the executive branch of the Federal Government, but shall not include the American National Red Cross.

(j) "Federal financial assistance" means Federal monetary compensation for losses from the failure of Teton Dam which the claimant is not obligated to repay.

(k) "Final agency action" means determination of entitlement to payment and the amount thereof, under these regulations, as made by the Office of Hearings and Appeals of the Department.

(l) "Incident" means the failure on June 5, 1976, of the Teton Dam of the Lower Teton Division of the Teton Basin Federal Reclamation Project.

(m) "Insurance" means a contract under which one party has agreed to compensate the other for loss of or damage to property, for personal injury, or for loss of income. For the purposes of these regulations, insurance shall not include life insurance or pension benefits.

(n) "Legal representative" means any person authorized under the laws of the State of Idaho to assert the claim of another individual, including but not limited to a duly authorized agent, the executor or administrator of the claimant's estate, a minor's parent or guardian, or the claimant's attorney. No insurer with either whole or partial rights of a subrogee may be a legal representative under these regulations.

(o) "Major disaster area" means the Idaho counties of Bingham, Bonneville, Fremont, Jefferson, and Madison, designated by the Administrator, Federal Disaster Assistance Administration, on June 6, 1976, or such other areas as may be later designated by the Administrator under the President's declaration of June 6, 1976. In addition, that portion of the Fort Hall Indian Reservation lying in Bannock County, westward from U.S. Highway 191 to the Snake River and the American Falls Reservoir is included in the major disaster area, for the purpose of these regulations.

(p) "Secretary" means the Secretary of the Interior.

(q) "Treasury" means the Treasury of the United States.

§ 419.1 Appropriation Act claims.

§ 419.1–0 When presented.

(a) *Filing.* An administrative claim shall be deemed to have been presented when the Idaho Falls, Rexburg, or Blackfoot office or such other offices as the Bureau may designate, receives from a claimant, an executed form to be prescribed by the Secretary or other written notification of such claim, accompanied by a request for money damages in a sum certain for injury to or loss of property, for personal injury or for death alleged to have occurred as a result of the incident.

(b) *Single claim.* All claims for actual damages to or loss of property, income, personal injury or death, by a single claimant shall be submitted by the claimant as and in a single claim, except as otherwise provided in this section, and each claim shall designate clearly that it is being submitted under the provisions of the Public Works Appropriation Act of 1976, Pub. L. 94–180, 89 Stat. 1035, the Act of July 12, 1976, 90 Stat. 889 or the Teton Dam Disaster Assistance Act of 1976, Pub. L. 94–400, 90 Stat. 1211. An additional claim may be submitted by the claimant if the claimant had not discovered and by the exercise of reasonable diligence could not have discovered the damage to or loss of property, income or personal injury prior to determination of the claimant's single original claim by the authorized officer.

(c) *Amendment.* A claim presented in compliance with paragraph (a) of this section may be amended by the claimant at any time prior to determination by the authorized officer. Amendments shall be designated as such and submitted in writing and signed by the claimant or his legal representative.

§ 419.1–1 Eligibility.

(a) In order to qualify for payment under these regulations the claimant must certify at the time of submitting his claim, that:

(1) The loss or injury being claimed has not been compensated for by any assistance from other means.

(2) Should the claimant subsequently receive assistance from other means the claimant will refund or repay to the Treasury any payments made under these regulations, to the extent they are duplicated by such subsequent assistance from other means.

(3) The damage, injury, or loss for which a claim is made occurred within the major disaster area as a direct result of the incident.

(4) Upon payment of claims under the provisions of these regulations, with the exception of payment of emergency claims under § 419.3 or partial payments under § 419.4, the claimant shall release the United States, its agents and employees from all possible liability arising from the incident. (See § 419.7)

(b) All certifications made by a claimant under paragraph (a) of this section are made subject to civil and criminal penalties for presenting fraudulent claims or making false statements. (See 18 U.S.C. 287, 1001 and 31 U.S.C. § 231).

§ 419.1–2 Who may file.

(a) A claim for injury to or loss of property, or loss of income resulting therefrom, must be presented by the owner of the property at the time of the incident or his legal representative.

(b) A claim for personal injury or loss of income resulting therefrom must be presented by the injured person or his legal representative.

(c) A claim based on death or loss of income resulting therefrom must be presented by the executor or administrator of the decedent's estate, or by any other person legally enitled to assert such a claim in accordance wih the laws of the State of Idaho. For the purposes of filing a claim under these regulations, any person missing as a result of the incident who is still missing and unaccounted for by June 5, 1977, shall be presumed dead.

(d) A claim presented by a legal representative shall be presented in the name of the claimant, be signed by the legal representative, show the title or legal capacity of the legal representative, and be accompanied by evidence of his authority to present a claim on behalf of the claimant as agent, executor, administrator, parent, guardian, or other representative.

§ 419.1–3 Evidence and information to be submitted.

(a) *General.* Recognizing that all or part of the evidence and information needed to verify claims may have been lost as a result of the incident, the claimant may be required to submit the following evidence or information in support of all claims:

(1) A detailed statement of all relevant insurance policies and applications therefor, owned by or for the benefit of the claimant, and copies of the policies and applications.

(2) A detailed statement of other evidence of all entitlement to or assistance from other means, anticipated or received.

(b) *Death.* In support of a claim based on death, the claimant may be required to submit the following evidence or information:

(1) An authenticated death certificate or other competent evidence showing cause of death, evidence of the circumstances surrounding the death, date of death, and age of the decedent.

(2) Decedent's employment or occupation at time of death, including his monthly or yearly salary or earnings (if any), and the duration of his last employment or occupation.

(3) Full names, addresses, birth dates, kinship, and marital status of the decedent's survivors, including identification of those survivors who were dependent for support upon the decedent at the time of his death.

(4) Degree of support afforded by the decedent to each survivor dependent upon him for support at the time of his death.

(5) Decedent's general physical and mental condition before death.

(6) Itemized bills for medical and burial expenses incurred by reason of the incident causing death, or itemized receipts of payment for such expenses.

(7) Any other evidence or information which may have a bearing on either the death or the damages claimed, or the proximate cause of either.

(c) *Personal injury.* In support of a claim for personal injury the claimant may be required to submit the following evidence or information:

(1) A written report (or medical release therefor) signed by his attending physician or other competent medical authority setting forth the nature and extent of the injury, nature and extent of treatment, any degree of temporary or permanent disability, the medical prognosis, period of hospitalization, and any diminished earning capacity.

(2) Any other medical reports at any time previously or thereafter made of the physical or mental condition which is the subject matter of his claim (or medical releases therefor).

(3) Itemized bills for medical, dental and hospital expenses incurred, or itemized receipts of payment for such expenses.

(4) If the prognosis reveals the necessity for future treatment, a statement of expected expenses for such treatment signed by a physician or other competent medical authority.

(5) If a claim is made for loss of time from employment, a written statement from his employer showing actual time lost from employment, whether he is a full or part-time employee, and wages or salary actually lost.

(6) Any other evidence or information which may have a bearing on either the personal injury or the damages claimed or the proximate cause of either.

(7) In addition, the claimant may be required to submit to an examination by a physician or other competent medical authority employed or designated by the Department or another Federal agency.

(d) *Property damage.* In support of a claim for damages to or loss of property, real or personal, the claimant may be required to submit the following evidence or information:

(1) Proof of ownership at the time of the incident including a statement of any liens or other secured interests.

(2) A detailed statement of the amount claimed with respect to each item of property.

(3) An itemized receipt of payment for necessary repairs or itemized written estimates of the cost of such repairs.

(4) A statement listing date of purchase, purchase price, depreciated value, if applicable, and salvage value, where repair is not economical.

(5) Any other evidence or information which may have a bearing on either the injury to or loss of property or the damages claimed or the proximate cause of any of them.

(e) *Refusal to supply evidence.* The refusal to supply the evidence or information requested under paragraphs (a)–(d) of this section, may result in the denial of the claim.

§ 419.2 Administrative review.

§ 419.2–0 Investigative report.

(a) *Duties of the claims officer.* (1) *Investigation.* A prompt investigation of the basis for each claim shall be made. The nature and extent of the investigation shall depend upon the nature of the claim and the need for information and evidence. In all cases the claims officer shall insure that the investigation is conducted in a fair and impartial manner and to the extent possible that:

(i) Signed statements are obtained from available competent witnesses to facts pertinent to the claim.

(ii) Property damage is inspected.

(iii) Injured persons or their legal representatives are personally interviewed.

(iv) All bills or estimates necessary for full and fair consideration of the nature, extent and amount of injury, damage or loss are obtained.

(2) *Report and recommendation.* Claims officers shall:

(i) Prepare the investigative report.

(ii) Submit the complete investigative report to the authorized officer together with a summary analysis thereof.

(3) *Counseling.* Claims officers shall also be responsible for furnishing claims forms and advise and assist claimants on the proper procedures for filing claims.

(b) *Contents of the investigative report.* The investigative report shall be in writing. In addition to the claims form and other information provided by the claimant, the investigative report shall contain all pertinent statements, exhibits and any other evidence taken or considered in the investigation.

§ 419.2–1 Administrative determination.

(a) *Determination of claim.* Upon receipt of the claims officer's investigative report, the authorized officer shall make a determination of the claim. If additional information is necessary to determine the claim, the authorized officer may request the claims officer to obtain such additional information. The authorized officer may either deny the claim, or pay the claim in full or in part. The determination shall be made as expeditiously as possible. If the claimant has received emergency payment under § 419.3 or partial payment under § 419.4, the authorized officer shall deduct such payments from final payment of the claim.

(b) *Notice.* Notice of the determination to each claim shall be in writing and shall be sent within the time specified in paragraph (a) of this section, to the claimant by certified or registered mail, return receipt requested, or by personal delivery. The notice shall state that if the claimant is dissatisfied he is entitled to request reconsideration of the authorized officer's determination under § 419.5.

(c) *Motion for reconsideration.* If the claimant is dissatisfied with the determination of the authorized officer, the claimant may file a motion for reconsideration of the claim by notifying the authorized officer within 60 days after the date of receipt of the determination. All motions for reconsideration must be in writing and state the basis for the motion and may be supported by other pertinent documents and papers. The authorized officer will notify the claimant within 20 days after receipt of the motion of his further determination.

§ 419.3 Emergency claim.

(a) The claims officer may in his discretion and upon request of the claimant refer any claim filed under these regulations or portion thereof, to the authorized officer prior to final completion of the investigative report if the claim or portion thereof is for an item or service essential to the claimant to prevent personal hardship or injury.

(b) The authorized officer may, under the authority of this section of these regulations, make payment to the claimant; however, such payment shall not exceed $10,000.

(c) Payment of emergency claims under this section shall be made in accordance with the provisions of § 419.6.

§ 419.4 Partial payment of claim.

(a) The claims officer may in his discretion and upon request of the claimant refer a portion of any claim filed under these regulations to the authorized officer upon completion of the investigation of such portion of the claim. Only logically severable portions of the claim, as determined by the claims officer, shall be referred to the authorized officer.

(b) Upon receipt of the claims officer's partial investigative report under paragraph (a) of this section, the authorized officer shall make a determination of the claim under the procedures of § 419.2–1. If the authorized officer finds that partial determination is inappropriate, the authorized officer shall return the partial investigative report to the claims officer.

(c) Notice of determination of each partial claim shall be sent in accordance with § 419.2–1(b). Payment of partial claims under this section shall be made in accordance with the provisions of § 419.6.

§ 419.5 Appeals.

(a) If the claimant is dissatisfied with the determination of the authorized officer, the claimant may file an appeal of the claim within 60 days after the date of receipt of the authorized officer's determination. It is not necessary to file a motion for reconsideration under § 419.2–1(c) prior to appeal.

(b) Upon receipt of an appeal, the authorized officer shall immediately forward the appeal, the investigative report, and all supporting documents and papers to the Office of Hearings and Appeals of the Department.

(c) The Office of Hearings and Appeals shall, within 6 months from the date of receipt of the appeal take the final agency action on the claim in accordance with the regulations contained in 43 CFR 4.700–4.704.

§ 419.6 Payment of claim.

(a) In all cases in which the authorized officer determines that payment of all or part of the claim filed under these regulations is proper, the authorized officer shall include with the notice of the disposition of the claim transmitted to the claimant under § 419.2–1(b) a completed payment voucher.

(b) Upon acceptance of the authorized officer's disposition of the claim, as evidenced by the execution and return of the payment voucher to the authorized officer, payment for the claims included therein shall be made by the Bureau out of "Construction and Rehabilitation" funds provided for by the Act of July 12, 1976, 90 Stat. 889.

(c) If the claimant has received emergency or disaster loans from the United States Department of Agriculture, the Small Business Administration or any other Federal agency due to the incident, the authorized officer shall issue separate payment vouchers to the claimant and to the Federal lending agency to the extent of the indebtedness. The voucher for payment to the Federal lending agency shall be made jointly payable to the claimant and the agency.

(d) If the authorized officer is aware of any secured interest in real or personal property which is the subject of a claim under these regulations, the authorized officer shall notify such a holder of the secured interest of the payment at the time the payment voucher is transmitted to the claimant. The authorized officer may include the owner of such secured interest on the voucher for payment if appropriate or desirable in the circumstances.

§ 419.7 Release.

(a) Acceptance of payment for claims under these regulations shall release the United States, its agents and employees from all possible liability for damages caused by the incident. The signed payment voucher shall constitute and be conclusive evidence of the claimant's full release of the United States, its agents and employees from all possible liability. Such release will be binding upon the claimant and all other persons for whose benefit the claim was asserted or who might otherwise seek to hold the United States, its agents or employees liable for damages to the claimant caused by the incident.

(b) If partial payment is made under § 419.4, acceptance of the payment voucher for such partial payment under these regulations shall release the United States, its agents and employees from all possible liability for damages caused by the incident and related to the partial claim. The signed payment voucher will constitute and be conclusive evidence of the claimant's release. Such release will be binding upon the claimant and all other persons for whose benefit the partial claim was asserted or who might otherwise seek to hold the United States, its agents or employees liable for damages to the claimant caused by the incident and related to the partial claim.

(c) No release given under these regulations shall affect the rights of any insurance company with the rights of a subrogee against the United States, its agents and employees to the extent that the insurance company has paid claims arising from the incident prior to payment of a claim under these regulations.

(d) If the claimant elects to appeal the determination of the authorized officer under § 419.5 of these regulations or elects to institute an action on the claim against the United States in a court of competent jurisdiction, the claimant may elect to accept payment of 50 percent of the amount determined by the authorized officer or the Office of Hearings and Appeals. The acceptance of such payment shall not constitute a release of the United States, its agents and employees under these regulations. If the claimant files a timely appeal under § 419.5 of these regulations or institutes an action on the claim against the United States in a court of competent jurisdiction after receiving payment under this paragraph, the remaining 50 percent of the amount determined by the authorized officer, or whatever amount is determined by the Office of Hearings and Appeals or the court will be paid to the claimant under § 419.6 upon final decision of the Office of Hearings and Appeals or upon final judicial decision. If the Office of Hearings and Appeals or the court decides that an amount less than 50 percent of the amount initially determined by the authorized officer and paid to the claimant under this provision is due, the claimant must promptly repay or refund to the Treasury the amount by which the payment made to the claimant exceeds the amount found by the Office of Hearings and Appeals or the court to have been due. If the claimant fails to file a timely appeal under § 419.5 or fails to file a timely action against the United States after receiving payment under this paragraph or, after filing a timely appeal or action withdraws the appeal or action or fails to prosecute the appeal or action for any reason, the authorized officer will send the claimant a payment voucher under § 419.6 for the remaining 50 percent of the amount determined by the authorized officer. The claimant must execute and return the payment voucher within 45 days or no payment will be made for the remaining 50 percent of the amount determined by the authorized officer and the claimant shall be considered to have waived any claim to further payment under these regulations as to the claim determined by the authorized officer for which the claimant elected to accept payment of 50 percent of the amount determined. Acceptance of payment for the final 50 percent of the amount determined by the authorized officer or for the amount decided upon by the Office of Hearings and Appeals or the court shall release the United States, its agents and employees from all possible liability for damages caused by the incident to the extent provided under paragraphs (a) and (b) of this section, whichever is applicable.

§ 419.8 Limitation of relief to avoid duplication of benefits.

§ 419.8–1 Insurance or other non-Federal sources.

No payment shall be made under these regulations to the extent they are paid or are payable from any other source, including, but not limited to the claimant's insurance policies. If the investigative report indicates that the claimant may be entitled to payment from another source, the authorized officer shall not issue a payment voucher unless and until the claimant has provided written proof that the insurer or such other source has denied the claim, and the claimant assigns to the United States any rights of action he has or may have against any other third party including an insurer. If the authorized officer later determines that (a) A claimant has received payment under these regulations and from insurance or other sources, and, (b) that the amount received from all sources exceeded the amount of the loss, the authorized officer shall direct the claimant to refund or repay to the Treasury an amount not to exceed the payment received and sufficient to reimburse the Federal Government for that part of the payment the authorized officer deems excessive.

§ 419.8–2 Duplication of Federal benefits.

(a) The authorized officer shall assure, in cooperation with the Federal Coordinating Officer of the Federal Disaster Assistance Administration; that no claimant shall receive payment on a claim under these regulations with respect to any part of a loss as to which the claimant has received Federal financial assistance which is not repayable under any other Federal Government program.

(b) If the authorized officer later determines that (1) A claimant has received Federal financial assistance under these regulations and from another Federal agency and (2) that the amount received from all Federal agencies exceeded the amount of determined loss the authorized officer shall direct the claimant to refund or repay the Treasury an amount, not to exceed the payment received, sufficient to reimburse the Federal Government for the part of the assistance the authorized officer deems excessive.

§ 419.9 Limitation of damages.

(a) *General.* Claims shall be paid only for damages directly resulting from the incident and which occurred within the major disaster area. No claims shall be paid for punitive damages. The burden of proof on all claims shall be on the claimant.

(b) *Death.* Claims based on death shall be paid only if the death was directly caused by the incident, including, but not limited to, drowning or injuries caused by floodwaters. The measure of damages in the case of death shall be the actual pecuniary loss, as defined in § 419.0–5 of these regulations, suffered by the decedent's heirs.

(c) *Personal injury.* Claims based on personal injury shall be paid only if the injuries claimed were directly caused by the incident such as injuries caused by floodwaters. The measure of damages in the case of a personal injury shall be actual pecuniary loss as defined in § 419.0–5 of these regulations.

(d) *Property damage.* Claims based on property damage shall be paid only if the damage claimed was directly caused by the incident, such as, but not limited to, floodwaters or Federal agency activities undertaken as a part of disaster relief activities. No claims shall be paid in excess of whichever of the following constitutes equitable compensation for loss as determined by the authorized officer: (1) The replacement cost of the property, (2) the cost of repairing the property to its condition prior to June 5, 1976, or (3) the amount determined necessary to replace or repair the property under the rules of the Federal agency which has made a disaster loan for such damage.

(e) *Loss of income.* Claims for loss of income whether resulting from personal injury, property damage or death will be paid to the extent such damages would be determined under the laws of the State of Idaho.

(f) *Interest.* No interest shall be paid any claimant based on any payments authorized or made under these regulations.

§ 419.10 Time limit for filing claim.

Claims under these regulations shall be forever barred unless properly filed in accordance with § 419.1–0 of these regulations not later than two years after the effective date hereof.

§ 419.11 Election of remedies.

(a) *Withdrawal.* A pending Appropriations Act claim may be withdrawn from consideration by the claimant prior to final agency action upon 15 days written notice to the authorized officer. Any claim withdrawn prior to final agency action shall be deemed abandoned and no payment shall be made on the claim.

(b) *Judicial action.* A claimant may institute a suit with respect to claimed damages, or any part thereof, against the United States in any court of competent jurisdiction only after withdrawal of the claim or after final agency action. If such a suit is instituted, there shall be no further consideration or proceedings on the claim under this Act.

§ 419.12 Publication.

In order to assure that information concerning the rights of claimants and procedures to be followed reach all prospective claimants these regulations shall be published at least once a week for four consecutive weeks in newspapers with general circulation in the State of Idaho. In addition, brochures and pamphlets explaining rights of claimants and procedures to be followed will be distributed in the major disaster area. Copies of these regulations shall be available at the Idaho Falls, Rexburg, and Blackfoot offices of the Bureau.

§ 419.13 Severability.

If any provision(s) of these regulations or the application thereof to any person or circumstances is subsequently held invalid by a court of law, the invalidity shall not affect other provisions or applications of the regulations which can be given effect without the invalid provision(s) or application, and for this purpose the provisions of these regulations are severable.

These regulations become effective September 27, 1976.

[FR Doc.76-28247 Filed 9-22-76;4:58 pm]

Title 45—Public Welfare

CHAPTER II—SOCIAL AND REHABILITATION SERVICE, DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

PART 201—GRANTS TO STATES FOR PUBLIC ASSISTANCE PROGRAMS

Reconsideration of Disallowances

Notice is hereby given that the regulation amendment set forth below is adopted by the Administrator, Social and Rehabilitation Service, with the approval of the Secretary of Health, Education, and Welfare.

The purpose of the amended regulation is to enable the Administrator to expedite the reconsideration process.

Under the present regulation, conferences may only be scheduled with the Administrator and reconsideration decisions issued by the Administrator. Due to the large number of reconsiderations presently pending and the concomitant number of conferences requested, problems in fitting the conferences only into the Administrator's schedule would unnecessarily delay the orderly processing of reconsideration. Under this amendment the Administrator will share the responsibility for reconsiderations with the Deputy Administrator.

The basis for the change is the Administrator's determination that inability to delegate responsibility for reconsideration conferences and decisions to an official other than himself is detrimental to the proper and efficient administration of the reconsideration process.

To preserve linkage between the official conducting the conference and the official issuing the final administrative decision, the regulation provides that whichever official conducts the conference will also issue the final administrative decision.

The Department finds that there is good cause to dispense with proposed rulemaking so that SRS can schedule in a timely manner the 160 cases under reconsideration involving Federal Financial Participation to States. To do otherwise would involve unnecessary and unproductive delay to the detriment of both States and the Federal government. It is the intent of the service to proceed to final decisions on these cases in an expeditious and orderly manner. For these reasons, this amendment is hereby adopted in final form.

Part 201, chapter II, title 45 of the code of Federal Regulations is amended by revising § 201.14 to add a new paragraph (f) to read as follows:

§ 201.14 Reconsideration under section 1116(d) of the Act.

* * * * *

(f) For purposes of this section, the Administrator includes the Deputy Administrator, except that whichever official conducts the conference requested pursuant to paragraph (d)(7) of this section will also issue the final administrative decision pursuant to paragraph (d)(11) of this section.

(Sec. 1102, 49 Stat. 647 (42 U.S.C. 1302).)

(Catalog of Federal Domestic Assistance Program No. 13.761, Public Assistance-Maintenance Assistance (State Aid).)

Dated: July 26, 1976.

ROBERT FULTON,
Administrator, Social and Rehabilitation Service.

Approved: September 21, 1976.

DAVID MATHEWS,
Secretary.

[FR Doc.76-28161 Filed 9-24-76;8:45 am]

Title 49—Transportation

CHAPTER I—MATERIALS TRANSPORTATION BUREAU, DEPARTMENT OF TRANSPORTATION

[Docket No. HM-134; Amdt. No. 178-40]

PART 178—SHIPPING CONTAINER SPECIFICATIONS

Hazardous Materials Regulations; Reissuance; Correction

In FR Doc. 76-26376 appearing at pages 38175-38183 in the FEDERAL REGISTER of September 9, 1976, the section citation in paragraph number "24." appearing in the first column on page 38181 is corrected to read "§ 178.24a-6" instead of "§ 178.24-6".

(49 U.S.C. 1803, 1804, 1808 and 49 CFR 1.53(e).)

Issued in Washington, D.C., on September 21, 1976.

JAMES T. CURTIS, Jr.,
Director,
Materials Transportation Bureau.

[FR Doc.76-28204 Filed 9-24-76;8:45 am]

CHAPTER III—FEDERAL HIGHWAY ADMINISTRATION, DEPARTMENT OF TRANSPORTATION

SUBCHAPTER B—FEDERAL MOTOR CARRIER SAFETY REGULATIONS

[Notice No. 76-19]

PART 396—INSPECTION AND MAINTENANCE

Amendment; Minimum Time for Retention of Vehicle Inspection and Maintenance Records

● *Purpose.* The purpose of this document is to give public notice of an amendment to § 396.2 of the Federal Motor Carrier Safety Regulations (49 CFR 396.2) concerning the retention period for records of vehicle inspection and maintenance operations described in paragraph (b) and (c) of § 396.2. ●

There have been several inquiries from interested parties as to the minimum length of time that inspection and repair records must be retained by interstate motor carriers. The regulations require that inspection and maintenance records shall be maintained "* * * for the period during which such vehicle is subject to the motor carrier's control." It is alleged that this retention period creates an unnecessary economic burden.

A 3-year retention period of inspection, repair, and lubrication records is considered adequate for safety purposes. This amendment is in line with the President's directive to reduce paper work requirements.

The amendment constitutes a relaxation of a rule, therefore no Notice is needed and no comments are requested.

Therefore, § 396.2 of the Federal Motor Carrier Safety Regulations, (Subchapter B of Chapter III, Title 49, CFR) is revised to read as follows:

§ 396.2 Inspection and maintenance.

(a) Every motor carrier shall systematically inspect and maintain, or cause to be systematically maintained, all motor vehicles subject to its control, and the accessories required by Part 393 of this subchapter, to be mounted thereon, to insure that such motor vehicles are in safe and proper operating condition.

(b) Systematic inspection and maintenance records shall be maintained for each motor vehicle controlled by a motor carrier as follows:

(1) An identification of the vehicle including make, model, serial number, number of tires, their size and number of plies shall be kept for the period during which such vehicle is subject to the motor carrier's control.

(2) Records of inspection and repairs indicating their date and nature shall be retained in the motor carrier's files for a period of 3 years after the date of inspection and repair.

(3) Lubrication records shall be retained in the motor carrier's files for a period of 3 years after the date of lubrication.

(4) For each vehicle a systematic means shall be provided to indicate the nature and due date of the various inspection and maintenance operations to be performed.

(5) If the vehicle is leased, or otherwise contracted for, the records shall also include an identification of the lessor or contractor furnishing the vehicle. (Recommended procedure and forms set forth in § 396.9.)

(c) For buses, in addition to the above, such inspections shall include a test at least once every 90 days of all pushout windows and emergency doors to determine that they are operating properly and that the windows comply with the requirements of Subpart D of Part 393 of this chapter.

(Sec. 204, Interstate Commerce Act, as amended, (49 U.S.C. 304), Sec. 6, Department of Transportation Act (49 U.S.C. 1655), and the delegations of authority by the Secretary of Transportation and the Federal Highway Administrator of 49 CFR 1.48 and 301.60 respectively.)

Effective date: This amendment is effective on the date of issuance.

Issued on September 16, 1976.

ROBERT A. KAYE,
Director, Bureau of
Motor Carrier Safety.

[FR Doc.76-28199 Filed 9-24-76;8:45 am]

Title 50—Wildlife and Fisheries

CHAPTER I—UNITED STATES FISH AND WILDLIFE SERVICE, DEPARTMENT OF THE INTERIOR

PART 32—HUNTING

Missisquoi National Wildlife Refuge, Vermont

The following special regulation is issued and is effective from September 30, 1976 through December 31, 1976.

§ 32.12 Special regulations: migratory game birds; for individual wildlife refuge areas.

VERMONT

MISSISQUOI NATIONAL WILDLIFE REFUGE

The public hunting of migratory game birds on the Missisquoi National Wildlife Refuge, Vermont, is permitted only on the areas delineated on maps available at refuge headquarters, R.D. No. 2, Swanton, Vermont 05488, and from the Regional Director, U.S. Fish and Wildlife Service, John W. McCormack Post Office and Courthouse, Boston, Massachusetts 02109. Hunting shall be in accordance with all applicable Federal and State regulations covering the hunting of migratory game birds. On those areas open to public hunting of migratory game birds for which a permit is not required, stake blinds may be constructed in accordance with State regulations. Blinds must be removed by May 25, 1977.

That portion of the refuge, known as the Webb Marsh, which includes Long Marsh Bay and channel, Brush Creek, and Metcalfe Island, will be reserved for young waterfowl hunters only. Hunting by youths who have completed a Federal waterfowl hunter training program is permitted on Saturdays, Sundays, and legal State holidays from the beginning of the State waterfowl hunting season through November 7, 1976. Shooting is permitted from designated blinds from legal shooting time until 11:00 a.m. local time. Youth waterfowl hunters will be limited to the use and possession of 25 shot shells each.

The provisions of this special regulation supplement the regulations which govern hunting on wildlife refuge areas generally, which are set forth in Title 50, Code of Federal Regulations, Part 32, and are effective through December 31, 1976.

WILLIAM C. ASHE,
Acting Regional Director, United
States Fish and Wildlife Service.

SEPTEMBER 20, 1976.

[FR Doc.76-28138 Filed 9-24-76;8:45 am]

PART 32—HUNTING

Missisquoi National Wildlife Refuge, Vermont

The following special regulation is issued and is effective during the period September 30, 1976 through December 31, 1976.

§ 32.22 Special regulations upland game; for individual wildlife refuge areas.

VERMONT

MISSISQUOI NATIONAL WILDLIFE REFUGE

The public hunting of upland game on the Missisquoi National Wildlife Refuge, Vermont, is permitted only on the areas delineated on maps available at refuge headquarters, RD 2, Swanton, Vermont 05488, and from the Regional Director, U.S. Fish and Wildlife Service, John W. McCormack Post Office and Courthouse, Boston, Massachusetts 02109. Hunting shall be in accordance with all applicable State regulations covering the hunting of upland game, subject to the following special condition: Rifles may not be used on that portion of the refuge lying east of the Missisquoi River.

The provisions of this special regulation supplement the regulations which govern hunting on wildlife refuge areas generally, which are set forth in Title

50, Code of Federal Regulations, Part 32, and are effective through December 31, 1976.

WILLIAM C. ASHE,
Acting Regional Director, United States Fish and Wildlife Service.

SEPTEMBER 20, 1976.

[FR Doc.76-28139 Filed 9-24-76;8:45 am]

PART 32—HUNTING

Missisquoi National Wildlife Refuge, Vermont

The following special regulation is issued and is effective October 9, 1976 through November 28, 1976.

§ 32.32 Special regulations: big game; for individual wildlife refuge areas.

VERMONT

MISSISQUOI NATIONAL WILDLIFE REFUGE

The public hunting of deer on the Missisquoi National Wildlife Refuge, Vermont, is permitted only on the areas delineated on maps available at refuge headquarters, RD 2, Swanton, Vermont 05488, and from the Regional Director, U.S. Fish and Wildlife Service, John W. McCormack Post Office and Courthouse, Boston, Massachusetts 02109. Hunting shall be in accordance with all applicable State regulations covering the hunting of deer, subject to the following special condition: During the regular season, only shotguns may be used on that part of the refuge lying east of the Missisquoi River.

The provisions of this special regulation supplement the regulations which govern hunting on wildlife refuge areas generally, which are set forth in Title 50, Code of Federal Regulations, Part 32, and are effective through December 31, 1976.

WILLIAM C. ASHE,
Acting Regional Director, United States Fish and Wildlife Service.

SEPTEMBER 20, 1976.

[FR Doc.76-28140 Filed 9-24-76;8:45 am]

PART 32—HUNTING

Shiawassee National Wildlife Refuge, Michigan

§ 32.12 Special regulations; migratory game birds; for individual wildlife refuge areas.

MICHIGAN

SHIAWASSEE NATIONAL WILDLIFE REFUGE

Public hunting of geese on the Shiawassee National Wildlife Refuge, Michigan, is permitted from waterfowl opening hour to 12 noon each odd numbered day from October 1 through November 30, 1976, excluding November 15. The hunting area comprising approximately 1,200 acres is delinated on maps located at the refuge headquarters, Saginaw, Michigan, and at the office of the Regional Director, U.S. Fish and Wildlife Service, Federal Building, Fort Snelling, Twin Cities, Minnesota 55111.

Hunting shall be in accordance with all applicable State and Federal regulations covering the hunting of geese subject to the following special conditions:

(1) Hunting shall be by Federal permit and only from assigned blinds and pits. Blind assignments will be determined by legal drawings.

(2) Certain designated blinds will be restricted to the use of 12 gauge shotguns and steel shot only.

(3) A two dollar blind fee per hunter will be charged for the rental of the blinds.

(4) Two or three hunters will be permitted in each blind or pit.

(5) Hunter application cards must be postmarked on or before September 15, 1976 and only successful applicants will be notified.

(6) After completion of the days hunt, all hunters must proceed to refuge headquarters for check-out and the submission of geese for examination.

The provisions of these special regulations supplement the regulations which govern hunting on wildlife refuges generally which are set forth in Title 50, Code of Federal Regulations, Part 32, and are effective through November 30, 1976.

CHARLES A. HUGHLETT,
Acting Regional Director.

[FR Doc.76-28194 Filed 9-24-76;8:45 am]

proposed rules

This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.

DEPARTMENT OF AGRICULTURE

Agricultural Marketing Service

[7 CFR Part 929]

HANDLING OF CRANBERRIES GROWN IN THE STATES OF MASSACHUSETTS, RHODE ISLAND, CONNECTICUT, NEW JERSEY, WISCONSIN, MICHIGAN, MINNESOTA, OREGON, WASHINGTON, AND LONG ISLAND IN THE STATE OF NEW YORK

Proposed Rulemaking With Respect to Expenses and Rate of Assessment

This notice invites written comments relative to the proposed expenses of $64,908.03 and the assessment rate of $0.03 per barrel of cranberries to support the activities of the Cranberry Marketing Committee during the 1976–77 fiscal period under Marketing Order No. 929. This is a regulatory program effective under the applicable provisions of the Agricultural Marketing Agreement Act of 1937, as amended (7 U.S.C. 601–674).

Consideration is being given to the following proposals submitted by the Cranberry Marketing Committee, established under the marketing agreement, as amended, and Order No. 929, as amended (7 CFR Part 929), as the agency to administer the terms and provisions thereof. Said agreement and order regulate the handling of cranberries grown in Massachusetts, Rhode Island, Connecticut, New Jersey, Wisconsin, Michigan, Minnesota, Oregon, Washington, and Long Island in the State of New York.

The proposals are as follows:

(a) That the expenses that are reasonable and likely to be incurred by said committee, during the fiscal period September 1, 1976, through August 31, 1977, will amount to $64,908.03.

(b) That the rate of assessment for such period, payable by each handler in accordance with § 929.41, be fixed at $0.03 per barrel or equivalent quantity of cranberries.

(c) Terms used in the amended marketing agreement and order shall, when used herein, have the same meaning as is given to the respective term in said amended marketing agreement and order.

All persons who desire to submit written data, views, or arguments in connection with the aforesaid proposals shall file the same, in quadruplicate, with the Hearing Clerk, United States Department of Agriculture, Room 112A, Washington, D.C. 20250, not later than October 20, 1976. All written submissions made pursuant to this notice will be made available for public inspection at the office of the Hearing Clerk during regular business hours (7 CFR 1.27(b)).

Dated: September 22, 1976.

Charles R. Brader,
Deputy Director, Fruit and Vegetable Division, Agricultural Marketing Service.

[FR Doc.76-28230 Filed 9-24-76;8:45 am]

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Federal Insurance Administration

[24 CFR Part 1917]

[Docket No. FI-2282]

NATIONAL FLOOD INSURANCE PROGRAM

Proposed Flood Elevation Determination for the Borough of Hatboro, Montgomery County, Pennsylvania

The Federal Insurance Administrator, in accordance with section 110 of the Flood Disaster Protection Act of 1973 (Pub. L. 93–234), 87 Stat. 980, which added section 1363 to the National Flood Insurance Act of 1968 (Title XIII of the Housing and Urban Development Act of 1968, Pub. L. 90–448), 42 U.S.C. 4001–4128, and 24 CFR Part 1917 (§ 1917.4(a)) hereby gives notice of his proposed determinations of flood elevations for the Borough of Hatboro, Montgomery County, Pennsylvania.

Under these Acts, the Administrator, to whom the Secretary has delegated the statutory authority, must develop criteria for flood plain management in identified flood hazard areas. In order to participate in the National Flood Insurance Program, the Borough must adopt flood plain management measures that are consistent with the flood elevations determined by the Secretary.

Proposed flood elevations (100-year flood) are listed below for selected locations. Maps and other information showing the detailed outlines of the flood-prone areas and the proposed flood elevations are available for review at the Bulletin Board, Municipal Building, 120 East Montgomery, Hatboro, Pennsylvania.

Any person having knowledge, information, or wishing to make a comment on these determinations should immediately notify Russel E. Sachs, Mayor of Hatboro, 120 East Montgomery Avenue, Hatboro, Pennsylvania 19040. The period for comment will be ninety days following the second publication of this notice in a newspaper of local circulation in the above-named community.

The proposed 100-year Flood Elevations are:

Source of flooding	Location	Elevation in feet above mean sea level	Width in feet from bank of stream to 100-yr flood boundary facing downstream	
			Left	Right
Pennypack Creek	Upstream corporate limits	211	290	90
	Old York Rd	202	100	230
	Warminster Rd	196	365	160
Blair Mill Run	Monument Ave	226	130	(1)
	Moreland Ave	221	110	(1)
	Fairview Ave. (extended)	216	140	130
	Downstream corporate limits	214	370	125

[1] Corporate limits.

(National Flood Insurance Act of 1968 (Title XIII of Housing and Urban Development Act of 1968), effective January 28, 1969 (33 FR 17804, November 28, 1968), as amended (42 U.S.C. 4001–4128); and Secretary's delegation of authority to Federal Insurance Administrator 34 FR 2680, February 27, 1969, as amended by 39 FR 2787, January 24, 1974.)

Howard B. Clark,
Acting Federal Insurance Administrator.

[FR Doc.76-27876 Filed 9-24-76;8:45 am]

[24 CFR Part 1917]

[Docket No. FI-2273]

NATIONAL FLOOD INSURANCE PROGRAM

Proposed Flood Elevation Determination for the Borough of West Easton, Northampton County, Pennsylvania

The Federal Insurance Administrator, in accordance with section 110 of the Flood Disaster Protection Act of 1973 (Pub. L. 93–234), 87 Stat. 980, which added section 1363 to the National Flood Insurance Act of 1968 (Title XIII of the Housing and Urban Development Act of 1968 Pub. L. 90–448), 42 U.S.C. 4001–4128, and 24 CFR Part 1917 (§ 1917.4(a)) hereby gives notice of his proposed determinations of flood elevations for the

Borough of West Easton, Northampton County, Pennsylvania.

Under these Acts, the Administrator, to whom the Secretary has delegated the statutory authority, must develop criteria for flood plain management in identified flood hazard areas. In order to participate in the National Flood Insurance Program, the Borough must adopt flood plain management measures that are consistent with the flood elevations determined by the Secretary.

Proposed flood elevations (100-year flood) are listed below for selected locations. Maps and other information showing the detailed outlines of the flood-prone areas and the proposed flood elevations are available for review in the front window of Borough Hall, 6th and Center Streets, West Easton.

Any person having knowledge, information, or wishing to make a comment on these determinations should immediately notify Mayor James R. Kelly, Borough Hall, 6th and Center Streets, West Easton, Pennsylvania 18042. The period for comment will be ninety days following the second publication of this notice in a newspaper of local circulation in the above-named community.

The proposed 100-year Flood Elevations are:

Source of flooding	Location	Elevation in feet above mean sea level	Width in feet from bank of stream to 100-yr flood boundary facing downstream	
			Left	Right
Lehigh River	Main St	197	[1] 400	(2)
	Closed highway bridge	200	150	(2)
	Corporate limit (upstream)	201	550	(2)

[1] From corporate limit.

(2) Outside corporate limits.

(National Flood Insurance Act of 1968 (Title XIII of Housing and Urban Development Act of 1968), effective January 28, 1969 (33 FR 17804, November 28, 1968), as amended; 42 U.S.C. 4001–4128; and Secretary's delegation of authority to Federal Insurance Administrator 34 FR 2680, February 27, 1969, as amended by 39 FR 2787, January 24, 1974.)

Issued: August 15, 1976.

HOWARD B. CLARK,
Acting Federal Insurance Administrator.

[FR Doc.76-27881 Filed 9-24-76;8:45 am]

[24 CFR Part 1917]

[Docket No. FI-2290]

NATIONAL FLOOD INSURANCE PROGRAM

Proposed Flood Elevation Determinations for the City of Eau Claire, Wisconsin

The Federal Insurance Administrator, in accordance with section 110 of the Flood Disaster Protection Act of 1973 (Pub. L. 93-234), 87 Stat. 980, which added section 1363 to the National Flood Insurance Act of 1968 (Title XIII of the Housing and Urban Development Act of 1968 Pub. L. 90-448), 42 U.S.C. 4001-4128, and 24 CFR Part 1917 (§ 1917.4(a)), hereby gives notice of his proposed determinations of flood elevations for the City of Eau Claire, Wisconsin.

Under these Acts, the Administrator, to whom the Secretary has delegated the statutory authority, must develop criteria for flood plain management in identified flood hazard areas. In order to participate in the National Flood Insurance Program, the City of Eau Claire, Wisconsin must adopt flood plain management measures that are consistent with the flood elevations determined by the Secretary.

Proposed flood elevations (100-year flood) are listed below for selected locations. Maps and other information showing the detailed outlines of the flood-prone areas and the proposed flood elevations are available for review at City Hall, 203 South Farewell, Eau Claire, Wisconsin 54701.

Any person having knowledge, information, or wishing to make a comment on these determinations should immediately notify Mr. Ray E. Wacks, City Manager, City Hall, 203 South Farewell, Eau Claire, Wisconsin 54701. The period for comment will be ninety days following the second publication of this notice in a newspaper of local circulation in the above-named community.

The proposed 100-year Flood Elevations are:

Source of flooding	Location	Elevation in feet above mean sea level	Width from shoreline or bank of stream (facing downstream) to 100-yr flood boundary (feet)	
			Right	Left
Eau Claire River	Interstate Highway 53	797	50	50
	Dewey St	791	50	100
	Barstow St	787	650	400
Chippewa River	Lilac St	805	(1)	150
	Upstream side of Dells Dam	800	200	100
	Madison St	787	650	1,100
	Grand Ave	785	500	550
	Lake St. (Veterans Memorial Bridge)	784	900	100
	U.S. Highway 12	779	1,800	250
	Highway 37 and 85 (Shore St.)	777	500	3,500
	Interstate Highway 94	776	2,700	(1)

(1) Outside corporate limits.

(National Flood Insurance Act of 1968 (Title XIII of Housing and Urban Development Act of 1968), effective January 28, 1969 (33 FR 17804, November 28, 1968), as amended; 42 U.S.C. 4001–4128; and Secretary's delegation of authority to Federal Insurance Administrator 34 FR 2680, February 27, 1969, as amended by 39 FR 2787, January 24, 1974.)

Issued: August 20, 1976.

HOWARD B. CLARK,
Acting Federal Insurance Administrator.

[FR Doc.76-27888 Filed 9-24-76;8:45 am]

[24 CFR Part 1917]

[Docket No. FI-2277]

NATIONAL FLOOD INSURANCE PROGRAM

Proposed Flood Elevation Determination for the City of Leon Valley, Bexar County, Texas

The Federal Insurance Administrator, in accordance with section 110 of the Flood Disaster Protection Act of 1973 (Pub. L. 93-234), 87 Stat. 980, which added section 1363 to the National Flood Insurance Act of 1968 (Title XIII of the Housing and Urban Development Act of 1968 (Pub. L. 90-448), 42 U.S.C. 4001–4128, and 24 CFR Part 1917 (§ 1917.4(a)) hereby gives notice of his proposed determinations of flood elevations for the City of Leon Valley, Bexar County, Texas.

Under these Acts, the Administrator, to whom the Secretary has delegated the statutory authority, must develop criteria for flood plain management in identified flood hazard areas. In order to participate in the National Flood Insurance Program, the City must adopt flood plain management measures that are consistent with the flood elevations determined by the Secretary.

Proposed flood elevations (100-year flood) are listed below for selected locations. Maps and other information showing the detailed outlines of the flood-prone areas and the proposed flood elevations are available for review on the Bulletin Board in the Leon Valley City Hall, 6400 El Verde Road, San Antonio, Texas.

Any person having knowledge, information, or wishing to make a comment on these determinations should immediately notify Mayor Marcus Semmelmann, Leon Valley City Hall, 6400 El Verde Road, San Antonio, Texas 78238. The period for comment will be ninety days following the second publication of this notice in a newspaper of local circulation in the above-named community.

The proposed 100-year Flood Elevations are:

Source of flooding	Location	Elevation in feet above mean sea level	Width in feet from bank of stream to 100-yr flood boundary facing downstream	
			Left	Right
Huebner Creek	Balky Dr	827	100	100
	Euers Rd	822	350	500
	Peachtree Dr	817	850	130
	Bandera Rd	811	250	1,000
	Samaritan Dr	800	250	1,050
	Downstream corporate limits	793	575	1,000
Drain 1	William Rancher Rd		10	25
	Grass Hill Dr		40	30
	Aids Dr		200	70
Drain 1A	Seneca Dr		20	35
	Kinman Dr		25	30
	Mary Jamison Dr		[1]	------
Drain 2	Evening Sun Dr		60	70
	Seneca Dr		15	30
Drain 3	Stirrup Lane		50	60
	Forest Meadow Dr		30	40
	Forest Mont Dr		80	60
	Forest Ridge Dr		60	80
Zarzamora Creek	I-410—Service Rd		150	600
	Bandera Rd		425	750
Drain 4	I-410		[2]	[3]
	Wurzbach Rd		20	20

[1] Flooding contained within channel.
[2] 40 ft of flooding on left side of Bandera Rd.
[3] 40 ft of flooding on right side of Bandera Rd.

(National Flood Insurance Act of 1968 (Title XIII of Housing and Urban Development Act of 1968), effective January 28, 1969 (33 FR 17804, November 28, 1968), as amended; 42 U.S.C. 4001–4128; and Secretary's delegation of authority to Federal Insurance Administrator 34 FR 2680, February 27, 1969, as amended by 39 FR 2787, January 24, 1974.)

Issued: August 15, 1976.

HOWARD B. CLARK,
Acting Federal Insurance Administrator.

[FR Doc.76-27887 Filed 9-24-76;8:45 am]

[24 CFR Part 1917]

[Docket No. FI-2272]

NATIONAL FLOOD INSURANCE PROGRAM

Proposed Flood Elevation Determination for the City of Meadville, Crawford County, Pennsylvania

The Federal Insurance Administrator, in accordance with section 110 of the Flood Disaster Protection Act of 1973 (Pub. L. 93-234), 87 Stat. 980, which added section 1363 to the National Flood Insurance Act of 1968 (Title XIII of the Housing and Urban Development Act of 1968 (Pub. L. 90-448)), 42 U.S.C. 4001–4128, and 24 CFR Part 1917 (§ 1917.4(a)) hereby gives notice of his proposed determinations of flood elevations for the

City of Meadville, Crawford County, Pennsylvania.

Under these Acts, the Administrator, to whom the Secretary has delegated the statutory authority, must deveolp criteria for flood plain management in identified flood hazard areas. In order to participate in the National Flood Insurance Program, the City must adopt flood plain management measures that are consistent with the flood elevations determined by the Secretary.

Proposed flood elevations (100-year flood) are listed below for selected locations. Maps and other information showing the detailed outlines of the flood-prone areas and the proposed flood elevations are available for review on the Legal Bulletin Board in City Hall, 984 Water Street, Meadville.

Any person having knowledge, information, or wishing to make a comment on these determinations should immediately notify Mayor Richard Ruhlman, 984 Water Street, Meadville, Pennsylvania 16335. The period for comment will be ninety days following the second publication of this notice in a newspaper of local circulation in the above-named community.

The proposed 100-year Flood Elevations are:

Source of flooding	Location	Elevation in feet above mean sea level	Width in feet from bank of stream to 100-yr flood boundary facing downstream	
			Left	Right
French Creek	Park Ave	1,075	(1)	(1)
	Mercer St	1,077	1,720	(1)
	Mead Ave	1,079	1,360	(1)
	Spring St	1,081	360	(1)
	Ferry Rd	1,081	(1)	(1)
Cussewago Creek	Center St. (extended)	1,080	1,750	(1)
	Race St	1,081	(1)	(1)
	Dunham Rd	1,081	(1)	(1)

[1] Corporate limit.

(National Flood Insurance Act of 1968 (Title XIII of Housing and Urban Development Act of 1968), effective January 28, 1969 (33 FR 17804, November 28, 1968), as amended; 42 U.S.C. 4001–4128; and Secretary's delegation of authority to Federal Insurance Administrator 34 FR 2680, February 27, 1969, as amended by 39 FR 2787, January 24, 1974.)

Issued: August 15, 1976.

Howard B. Clark,
Acting Federal Insurance Administrator.

[FR Doc.76–27875 Filed 9–24–76;8:45 am]

[24 CFR Part 1917]

[Docket No. FI–2285]

NATIONAL FLOOD INSURANCE PROGRAM

Proposed Flood Elevation Determination for the City of York, York County, Pennsylvania

The Federal Insurance Administrator, in accordance with section 110 of the Flood Disaster Protection Act of 1973 (Pub. L. 93–234), 87 Stat. 980, which added section 1363 to the National Flood Insurance Act of 1968 (Title XIII of the Housing and Urban Development Act of 1968 Pub. L. 90–448), 42 U.S.C. 4001–4128, and 24 CFR Part 1917 (§ 1917.4 (a)) hereby gives notice of his proposed determinations of flood elevations for the City of York, York County, Pennsylvania.

Under these Acts, the Administrator, to whom the Secretary has delegated the statutory authority, must develop criteria for flood plain management in identified flood hazard areas. In order to participate in the National Flood Insurance Program, the City must adopt flood plain management measures that are consistant with the flood elevations determined by the Secretary.

Proposed flood elevations (100-year flood) are listed below for selected locations. Maps and other information showing the detailed outlines of the flood-prone areas and the proposed flood elevations are available for review on the Bulletin Board in the Main Lobby of City Hall, 50 West King Street, York, Pennsylvania 17405.

Any person having knowledge, information, or wishing to make a comment on these determinations should immediately notify Honorable John D. Krout, Mayor of York, City Hall, 50 West King Street, York, Pennsylvania 17405. The period for comment will be ninety days following the second publication of this notice in a newspaper of local circulation in the above-named community.

The proposed 100-year Flood Elevations are:

Source of flooding	Location	Elevation in feet above mean sea level	Width in feet from bank of stream to 100-yr flood boundary facing downstream	
			Left	Right
Codorus Creek	250 ft upstream from northern corporate limits of the city of York.	363	80	(1)
	George Street Bridge	364	100	60
	Philadelphia Street Bridge	366	30	60
	College Avenue Bridge	367	60	10
	Grantley Road Bridge	369	120	(1)

[1] Corporate limits.

(National Flood Insurance Act of 1968 (Title XIII of Housing and Urban Development Act of 1968), effective January 28, 1969 (33 FR 17804, November 28, 1968), as amended; 42 U.S.C. 4001–4128; and Secretary's delegation of authority to Federal Insurance Administrator 34 FR 2680, February 27, 1969, as amended by 39 FR 2787, January 24, 1974.)

Issued: August 22, 1976.

HOWARD B. CLARK,
Acting Federal Insurance Administrator.

[FR Doc.76-27886 Filed 9-24-76;8:45 am]

[24 CFR Part 1917]

[Docket No. FI-2270]

NATIONAL FLOOD INSURANCE PROGRAM

Proposed Flood Elevation Determination for the Township of East Penn, Carbon County, Pennsylvania

The Federal Insurance Administrator, in accordance with section 110 of the Flood Disaster Protection Act of 1973 (Pub. L. 93–234), 87 Stat. 980, which added section 1363 to the National Flood Insurance Act of 1968 (Title XIII of the Housing and Urban Development Act of 1968 Pub. L. 90–448), 42 U.S.C. 4001–4128, and 24 CFR Part 1917 (§ 1917.4(a)) hereby gives notice of his proposed determinations of flood elevations for the Township of East Penn, Carbon County, Pennsylvania.

Under these Acts, the Administrator, to whom the Secretary has delegated the statutory authority, must develop criteria for flood plain management in identified flood hazard areas. In order to participate in the National Flood Insurance Program, the Township must adopt flood plain management measures that are consistent with the flood elevations determined by the Secretary.

Proposed flood elevations (100-year flood) are listed below for selected locations. Maps and other information showing the detailed outlines of the flood-prone areas and the proposed flood elevations are available for review at the Township Building, R. D. 1 Lehighton, East Penn, Pennsylvania 18235.

Any person having knowledge, information, or wishing to make a comment on these determinations should immediately notify Mr. Asher Repshure, Township Supervisor for East Penn, R. D. 4 Lehighton, East Penn, Pennsylvania 18235. The period for comment will be ninety days following the second publication of this notice in a newspaper of local circulation in the above-named community.

The proposed 100-year Flood Elevations are:

Source of flooding	Location	Elevation in feet above mean sea level	Width in feet from bank of stream to 100-yr flood boundary facing downstream	
			Left	Right
Lehigh River	Upstream corporate limits	437	(1)	240
	Route 895	425	(1)	180
	Private road near Kittatinny	415	(1)	200
	Downstream corporate limits	385	(1)	35
Lizard Creek	ConRail tracks	423	20	20
	T354	432	70	140
	Pa. Turnpike	438	80	100
	T337 (extended)	506	180	30
	T336	517	300	880
	T333	538	520	280
	T334	556	600	220
	T330	569	60	180
	Upstream corporate limits	572	460	310

[1] Corporate limits.

(National Flood Insurance Act of 1968 (Title XIII of Housing and Urban Development Act of 1968), effective January 28, 1969 (33 FR 17804, November 28, 1968), as amended; 42 U.S.C. 4001–4128; and Secretary's delegation of authority to Federal Insurance Administrator 34 FR 2680, February 27, 1969, as amended by 39 FR 2787, January 24, 1974.)

HOWARD B. CLARK,
Acting Federal Insurance Administrator.

[FR Doc.76-27873 Filed 9-24-76;8:45 am]

[24 CFR Part 1917]

[Docket No. FI-2276]

NATIONAL FLOOD INSURANCE PROGRAM

Proposed Flood Elevation Determination for the Township of Haverford, Delaware County, Pennsylvania

The Federal Insurance Administrator, in accordance with section 110 of the Flood Disaster Protection Act of 1973 (Pub. L. 93–234), 87 Stat. 980, which added section 1363 to the National Flood Insurance Act of 1968 (Title XIII of the Housing and Urban Development Act of 1968 Pub. L. 90–448), 42 U.S.C. 4001–4128, and 24 CFR Part 1917 (§ 1917.4(a)) hereby gives notice of his proposed determinations of flood elevations for the Township of Haverford, Delaware County, Pennsylvania.

Under these Acts, the Administrator, to whom the Secretary has delegated the statutory authority, must develop criteria for flood plain management in identified flood hazard areas. In order to participate in the National Flood Insurance Program, the Township must adopt flood plain management measures that are consistent with the flood elevations determined by the Secretary.

Proposed flood elevations (100-year flood) are listed below for selected locations. Maps and other information showing the detailed outlines of the flood-prone areas and the proposed flood elevations are available for review at the Municipal Building, 2325 Darby Road, Havertown.

Any person having knowledge, information, or wishing to make a comment on these determinations should immediately notify Mr. Wilton A. Bunce, President of the Board of Commissioners, Township Municipal Building, 2325 Darby Road, Havertown, Pennsylvania 19083. The period for comment will be ninety days following the second publication of this notice in a newspaper of local circulation in the above-named community.

The proposed 100-year Flood Elevations are:

Source of flooding	Location	Elevation in feet above mean sea level	Width in feet from bank of stream to 100-yr flood boundary facing downstream	
			Left	Right
Naylor's Run	Langhorne Ave	229	95	210
	Whitney Ave. (extended)	236	60	180
	Manoa Rd	237	50	90
Cobbs Creek	South corporate limits	135	430	300
	Manoa Rd	161	25	20
	Remington Rd. (extended)	171	160	60
	Lakeside Ave	209	50	30
	Eagle Rd	265	40	125
	Merwood Lane	284	140	20
	Ardmore Ave	300	190	20
	College Ave	337	240	100
Darby Creek	South corporate limit	155	60	[1]
	Burmont Rd	159	400	[1]
	Fairview Ave. (extended)	166	220	[1]
	Old West Chester Pike	185	60	[1]
	200 ft upstream of West Chester Pike	185	460	[1]
	Marple Rd	191	220	[1]
	Route 476, Mid County Expressway	192	410	[1]
	Radnor and Chester Rds	202	780	[1]
	North corporate limit	204	304	[1]
Meadowbrook Run	50 ft downstream of Darby Rd	195	350	20

[1] Corporate limit.

(National Flood Insurance Act of 1968 (Title XIII of Housing and Urban Development Act of 1968), effective January 28, 1969 (33 FR 17804, November 28, 1968), as amended; 42 U.S.C. 4001–4128; and Secretary's delegation of authority to Federal Insurance Administrator 34 FR 2680, February 27, 1969, as amended by 39 FR 2787, January 24, 1974.)

Issued: August 15, 1976.

HOWARD B. CLARK,
Acting Federal Insurance Administrator.

[FR Doc.76-27874 Filed 9-24-76;8:45 am]

[24 CFR Part 1917]

[Docket No. FI-2275]

NATIONAL FLOOD INSURANCE PROGRAM

Proposed Flood Elevation Determination for the Township of Ontelaunee, Berks County, Pennsylvania

The Federal Insurance Administrator, in accordance with section 110 of the Flood Disaster Protection Act of 1973 (Pub. L. 93-234), 87 Stat. 980, which added section 1363 to the National Flood Insurance Act of 1968 (Title XIII of the Housing and Urban Development Act of 1968 Pub. L. 90-448), 42 U.S.C. 4001–4128, and 24 CFR Part 1917 (§ 1917.4(a)) hereby gives notice of his proposed determinations of flood elevations for the Township of Ontelaunee, Berks County, Pennsylvania.

Under these Acts, the Administrator, to whom the Secretary has delegated the statutory authority, must develop criteria for flood plain management in identified flood hazard areas. In order to participate in the National Flood Insurance Program, the Township must adopt flood plain management measures that are consistent with the flood elevations determined by the Secretary.

Proposed flood elevations (100-year flood) are listed below for selected locations. Maps and other information showing the detailed outlines of the flood-prone areas and the proposed flood elevations are available for review at the Ontelaunee Township Office, Route 61, Leesport, Pennsylvania.

Any person having knowledge, information, or wishing to make a comment on these determinations should immediately notify Mr. Samuel Sunday, Chairman of the Board of Supervisors of Ontelaunee, R. D. 1, Shoemakersville, Pennsylvania 19555. The period for comment will be ninety days following the second publication of this notice in a newspaper of local circulation in the above-named community.

The proposed 100-year Flood Elevations are:

Source of flooding	Location	Elevation in feet above mean sea level	Width in feet from bank of stream to 100-yr flood boundary facing downstream	
			Left	Right
Schuylkill River	Upstream corporate limits	294	1,220	(1)
	Upstream corporate limits Leesport Borough.	288	820	(1)
	Downstream corporate limits Leesport Borough.	281	10	(1)
	West Huller Lane (LR 06043)	264	30	(1)
	Downstream corporate limits	260	40	(1)
Maiden Creek	LR 506 (F.A.S.)	281	270	20
	T748 (Bowers Rd.)	277	40	300
	LR 160 (F.A.P.)	272	100	90
	Con Rail	268	20	30

[1] Corporate limits.

(National Flood Insurance Act of 1968 (Title XIII of Housing and Urban Development Act of 1968), effective January 28, 1969 (33 FR 17804, November 28, 1968), as amended; 42 U.S.C. 4001–4128; and Secretary's delegation of authority to Federal Insurance Administrator 34 FR 2680, February 27, 1969, as amended by 39 FR 2787, January 24, 1974.)

Issued: August 15, 1976.

HOWARD B. CLARK,
Acting Federal Insurance Administrator.

[FR Doc.76-27877 Filed 9-24-76;8:45 am]

[24 CFR Part 1917]

[Docket No. FI-2286]

NATIONAL FLOOD INSURANCE PROGRAM

Proposed Flood Elevation Determination for the Township of Spring Garden, York County, Pennsylvania

The Federal Insurance Administrator, in accordance with section 110 of the Flood Disaster Protection Act of 1973 (Pub. L. 93-234), 87 Stat. 980, which added section 1363 to the National Flood Insurance Act of 1968 (Title XIII of the Housing and Urban Development Act of 1968 Pub. L. 90-448), 42 U.S.C. 4001–4128, and 24 CFR Part 1917 (§ 1917.4(a)) hereby gives notice of his proposed determinations of flood elevations for the Township of Spring Garden, York County, Pennsylvania.

Under these Acts, the Administrator, to whom the Secretary has delegated the statutory authority, must develop criteria for flood plain management in identified flood hazard areas. In order to participate in the National Flood Insurance Program, the Township must adopt flood plain management measures that are consistent with the flood elevations determined by the Secretary.

Proposed flood elevations (100-year flood) are listed below for selected locations. Maps and other information showing the detailed outlines of the flood-prone areas and the proposed flood elevations are available for review at the Office-municipal Building, 558 South Ogontz Street, Spring Garden, Pennsylvania.

Any person having knowledge, information, or wishing to make a comment on these determinations should immediately notify Mr. G. Pennell, President of the Board of Commissioners, 558 South Ogontz Street, York, Pennsylvania 17403. The period for comment will be ninety days following the second publication of this notice in a newspaper of local circulation in the above-named community.

The proposed 100-year Flood Elevations are:

Source of flooding	Location	Elevation in feet above mean sea level	Width in feet from bank of stream to 100-yr flood boundary facing downstream	
			Left	Right
Codorus Creek	Interstate 83 bridge	362	(1)	1,280
	Eastern corporate limits of the city of York.	363	(1)	80
	Richland Avenue Bridge	371	(1)	160
	Indian Rock Dam Road Bridge	382	(1)	80
	ConRail bridge	387	(1)	60
	Southern corporate limits of the township of Spring Garden.	390	(1)	30
Mill Creek	Lioucks Mill Road Bridge	362	2,200	(1)
	Eberts Lane Bridge	374	600	(1)
	Eastern corporate limits of the city of York.	376	60	(1)
	Market Street Bridge	400	320	(1)
	Route 124 bridge	433	180	(1)
	Southern corporate limits of the township of Spring Garden.	457	40	(1)

[1] Corporate limits.

(National Flood Insurance Act of 1968 (Title XIII of Housing and Urban Development Act of 1968), effective January 28, 1969 (33 FR 17804, November 28, 1968), as amended; 42 U.S.C. 4001–4128; and Secretary's delegation of authority to Federal Insurance Administrator 34 FR 2680, February 27, 1969, as amended by 39 FR 2787, January 24, 1974.)

Issued: August 21, 1976.

HOWARD B. CLARK,
Acting Federal Insurance Administrator.

[FR Doc.76-27878 Filed 9-24-76;8:45 am]

[24 CFR Part 1917]

[Docket No. FI-2288]

NATIONAL FLOOD INSURANCE PROGRAM

Proposed Flood Elevation Determination for the Township of Springettsbury, York County, Pennsylvania

The Federal Insurance Administrator, in accordance with section 110 of the Flood Disaster Protection Act of 1973 (Pub. L. 93-234), 87 Stat. 980, which added section 1363 to the National Flood Insurance Act of 1968 (Title XIII of the Housing and Urban Development Act of 1968 Pub. L. 90-448), 42 U.S.C. 4001-4128, and 24 CFR CFR Part 1917 (§ 1917.4(a)) hereby gives notice of his proposed determinations of flood elevations for the Township of Springettsbury, York County, Pennsylvania.

Under these Acts, the Administrator, to whom the Secretary has delegated the statutory authority, must develop criteria for flood plain management in identified flood hazard areas. In order to participate in the National Flood Insurance Program, the Township must adopt flood plain management measures that are consistent with the flood elevations determined by the Secretary.

Proposed flood elevations (100-year flood) are listed below for selected locations. Maps and other information showing the detailed outlines of the flood-prone areas and the proposed flood elevations are available for review in the Lobby of the Municipal Building, 1501 Mt. Zion Road, York, Pennsylvania 17402.

Any person having knowledge, information, or wishing to make a comment on these determinations should immediately notify Mr. Elgin G. Radcliffe, Township Manager, Municipal Building, 1501 Mt. Zion Road, York, Pennsylvania 17402. The period for comment will be ninety days following the second publication of this notce in a newspaper of local circulation in the above-named community.

The proposed 100-year Flood Elevations are:

Source of flooding	Location	Elevation in feet above mean sea level	Width in feet from bank of stream to 100-yr flood boundary facing downstream	
			Left	Right
Codorus Creek	Northeastern corporate limits of the township of Springettsbury.	298	(1)	70
	Sherman Street Bridge (LR 66020)	343	(1)	760
	Mundis Mill Road Bridge	350	(1)	100
	ConRail bridge	360	(1)	120
	200 ft downstream from Route 30	362	(1)	1,150
Mill Creek	Loucks Mill Road Bridge	362	(1)	80
	Eberts Road Bridge	374	(1)	60
	ConRail Bridge	388	(1)	120
	Market Street Bridge	400	(1)	760
	Route 124 bridge	433	(1)	320
	Southern corporate limits of the township of Springettsbury.	457	(1)	40

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[1] Corporate limits.

(National Flood Insurance Act of 1968 (Title XIII of Housing and Urban Development Act of 1968), effective January 28, 1969 (33 FR 17804, November 28, 1968), as amended; 42 U.S.C. 4001-4128; and Secretary's delegation of authority to Federal Insurance Administrator 34 FR 2680, February 27, 1969, as amended by 39 FR 2787, January 24, 1974.)

Issued: August 21, 1976.

Howard B. Clark,
Acting Federal Insurance Administrator.

[FR Doc.76-27879 Filed 9-24-76;8:45 am]

[24 CFR Part 1917]

[Docket No. FI-2274]

NATIONAL FLOOD INSURANCE PROGRAM

Proposed Flood Elevation Determination for the Township of Upper Providence, Delaware County, Pennsylvania

The Federal Insurance Administrator, in accordance with section 110 of the Flood Disaster Protection Act of 1973 (Pub. L. 93-234), 87 Stat. 980, which added section 1363 to the National Flood Insurance Act of 1968 (Title XIII of the Housing and Urban Development Act of 1968 Pub. L. 90-448), 42 U.S.C. 4001-4128, and 24 CFR Part 1917 (§ 1917.4 (a)) hereby gives notice of his proposed determinations of flood elevations for the Township of Upper Providence, Delaware County, Pennsylvania.

Under these Acts, the Administrator, to whom the Secretary has delegated the statutory authority, must develop criteria for flood plain management in identified flood hazard areas. In order to participate in the National Flood Insurance Program, the Township must adopt flood plain management measures that are consistent with the flood elevations determined by the Secretary.

Proposed flood elevations (100-year flood) are listed below or selected locations. Maps and other information showing the detailed outlines of the flood-prone areas and the proposed flood elevations are available for review at Upper Providence Township Building, 935 North Providence Road, Media.

Any person having knowledge, information, or wishing to make a comment on these determinations should immediately notify Mr. Joseph R. Grubb, Jr., Chairman of the Board of Supervisors of Upper Providence, 935 North Providence Road, Media, Pennsylvania 19063. The period for comment will be ninety days following the second publication of this notice in a newspaper of local circulation in the above-named community.

The proposed 100-year Flood Elevations are:

Source of flooding	Location	Elevation in feet above mean sea level	Width in feet from bank of stream to 100-yr flood boundary facing downstream	
			Left	Right
Crum Creek	Palmers Mill Rd	140	10	30
	Paxon Hollow Rd	130	(1)	180
	Crum Creek Rd	123	(1)	80
	Media bypass	121	(1)	100
	Farnum Rd (extended)	117	(1)	160
	Corporate limit	117	(1)	220
Ridley Creek	Steeplechase Dr. (extended)	138	220	(1)
	Private road	132	160	(1)
	Rose Tree Rd	129	300	(1)
	Media bypass	128	160	(1)
	Baltimore Pike	117	140	(1)
	Media Station Rd	113	200	(1)

[1] Corporate limit.

Act of 1968), effective January 28, 1969 (33 FR 17804, November 28, 1968), as amended; 42 (National Flood Insurance Act of 1968 (Title XIII of Housing and Urban Development U.S.C. 4001–4128; and Secretary's delegation of authority to Federal Insurance Administrator 34 FR 2680, February 27, 1969, as amended by 39 FR 2787, January 24, 1974.)

Issued: August 15, 1976.

HOWARD B. CLARK,
Acting Federal Insurance Administrator.

[FR Doc.76-27880 Filed 9-24-76;8:45 am]

[24 CFR Part 1917]

[Docket No. FI-2289]

NATIONAL FLOOD INSURANCE PROGRAM

Proposed Flood Elevation Determination for the Township of West Goshen, Chester County, Pennsylvania

The Federal Insurance Administrator, in accordance with section 110 of the Flood Disaster Protection Act of 1973 (Pub. L. 93-234), 87 Stat. 980, which added section 1363 to the National Flood Insurance Act of 1968 (Title XIII of the Housing and Urban Development Act of 1968 Pub. L. 90-448), 42 U.S.C. 4001–4128, and 24 CFR Part 1917 (§ 1917.4 (a)) hereby gives notice of his proposed determinations of flood elevations for the Township of West Goshen, Chester County, Pennsylvania.

Under these Acts, the Administrator, to whom the Secretary has delegated the statutory authority, must develop criteria for flood plain management in identified flood hazard areas. In order to participate in the National Flood Insurance Program, the Township must adopt flood plain management measures that are consistent with the flood elevations determined by the Secretary.

Proposed flood elevations (100-year flood) are listed below for selected locations. Maps and other information showing the detailed outlines of the flood-prone areas and the proposed flood elevations are available for review at the Administrative Office in the Township Building, 1025 Paoli Pike, West Chester, Pennsylvania.

Any person having knowledge, information, or wishing to make a comment on these determinations should immediately notify Mr. Robert E. Lambert, Chairman of the Board of Supervisors of West Goshen, Township Building, 1025 Paoli Pike, West Chester, Pennsylvania 19380. The period for comment will be ninety days following the second publication of this notice in a newspaper of local circulation in the above-named community.

The proposed 100-year Flood Elevations are:

Source of flooding	Location	Elevation in feet above mean sea level	Width in feet from bank of stream to 100-yr flood boundary facing downstream	
			Left	Right
East branch, Chester Creek.	Corporate limit	400	300	100
	Dam	419	(1)	60
	Private drive	424	100	180
	West Chester bypass	427	220	600
	Route 100 bypass	437	40	40
Stony Brook Run	Corporate limit	288	800	40
	Private drive	295	150	100
	Partridge Lane	308	80	40
	Millard Rd	324	80	150
	Gravel path	327	150	100
Goose Creek	Corporate limit	333	150	350
	Conrail Bridge	339	100	40
	West Chester bypass	348	20	40
	Access Rd	399	860	660
	Downstream corporate limit, Chester Borough.	401	(1)	250
	Upstream corporate limit of Chester Borough.	420	(1)	(1)
	Montgomery Ave	422	(1)	140
	Gaffield St	427	120	100
East branch, Chester Creek.	Corporate limit, Bolmar St	401	1,400	(1)
	Westtown Rd	404	40	40

[1] Corporate limit.

(National Flood Insurance Act of 1968 (Title XIII of Housing and Urban Development Act of 1968), effective January 28, 1969 (33 FR 17804, November 28, 1968), as amended; 42 U.S.C. 4001-4128; and Secretary's delegation of authority to Federal Insurance Administrator 34 FR 2680, February 27, 1969, as amended by 39 FR 2787, January 24, 1974.)

Issued: August 22, 1976.

HOWARD B. CLARK,
Acting Federal Insurance Administrator.

[FR Doc.76-27882 Filed 9-24-76;8:45 am]

[24 CFR Part 1917]

[Docket No. FI-2287]

NATIONAL FLOOD INSURANCE PROGRAM

Proposed Flood Elevation Determination for the Township of West Mead, Crawford County, Pennsylvania

The Federal Insurance Administrator, in accordance with section 110 of the Flood Disaster Protection Act of 1973 (Pub. L. 93-234), 87 Stat. 980, which added section 1363 to the National Flood Insurance Act of 1968 (Title XIII of the Housing and Urban Development Act of 1968 Pub. L. 90-448), 42 U.S.C. 4001-4128, and 24 CFR Part 1917 (§ 1917.4(a)) hereby gives notice of his proposed determinations of flood elevations for the Township of West Mead, Crawford County, Pennsylvania.

Under these Acts, the Administrator, to whom the Secretary has delegated the statutory authority, must develop criteria for flood plain management in identified flood hazard areas. In order to participate in the National Flood Insurance Program, the Township must adopt flood plain management measures that are consistent with the flood elevations determined by the Secretary.

Proposed flood elevations (100-year flood) are listed below for selected locations. Maps and other information showing the detailed outlines of the flood-prone areas and the proposed flood elevations are available for review at the Township Building, Morgan Village Drive, West Mead.

Any person having knowledge, information, or wishing to make a comment on these determinations should immediately notify Mr. Clifford L. Nageotte, Chairman, R.D. 1, Meadville, Pennsylvania 16335. The period for comment will be ninety days following the second publication of this notice in a newspaper of local circulation in the above-named community.

The proposed 100-year Flood Elevations are:

Source of flooding	Location	Elevation in feet above mean sea level	Width in feet from bank of stream to 100-yr flood boundary facing downstream	
			Left	Right
French Creek	Upstream corporate	1,092	740	(1)
	Terrace St. (extended)	1,087	1,270	(1)
	Upstream corporate limits and town of Meadville.	1,081	110	(1)
	Route 20027	1,070	2,500	(1)
	Downstream corporate limits	1,069	1,190	(1)

[1] Corporate limits.

(National Flood Insurance Act of 1968 (Title XIII of Housing and Urban Development Act of 1968), effective January 28, 1969 (33 FR 17804, November 28, 1968), as amended; 42 U.S.C. 4001-4128; and Secretary's delegation of authority to Federal Insurance Administrator 34 FR 2680, February 27, 1969, as amended by 39 FR 2787, January 24, 1974.)

Issued: August 21, 1976.

HOWARD B. CLARK,
Acting Federal Insurance Administrator.

[FR Doc.76-27883 Filed 9-24-76;8:45 am]

[24 CFR Part 1917]

[Docket No. FI-2271]

NATIONAL FLOOD INSURANCE PROGRAM

Proposed Flood Elevation Determination for the Township of Westtown, Chester County, Pennsylvania

The Federal Insurance Administrator, in accordance with section 110 of the Flood Disaster Protection Act of 1973 (Pub. L. 93-234), 87 Stat. 980, which added section 1633 to the National Flood Insurance Act of 1968 (Title XIII of the Housing and Urban Development Act of 1968 Pub. L. 90-488), 42 U.S.C. 4001-4128, and 24 CFR Part 1917 (§ 1917.4(a)) hereby gives notice of his proposed determinations of flood elevations for the Township of Westtown, Chester County, Pennsylvania.

Under these Acts, the Administrator, to whom the Secretary has delegated the statutory authority, must develop criteria for flood plain management in identified flood hazard areas. In order to participate in the National Flood Insurance Program, the Township must adopt flood plain management measures that are consistent with the flood elevations determined by the Secretary.

Proposed flood elevations (100-year flood) are listed below for selected locations. Maps and other information showing the detailed outlines of the flood-prone areas and the proposed flood elevations are available for review at the

Township Building, Route 202 and Pleasant Grove Road, Westtown, Pennsylvania.

Any person having knowledge, information, or wishing to make a comment on these determinations should immediately notify Mr. Wilbur Dunning, Chairman of the Board of Supervisors of Westtown, Township Building, Route 202 and Pleasant Grove Road, Westtown, Pennsylvania 19395. The period for comment will be ninety days following the second publication of this notice in a newspaper of local circulation in the above-named community.

The proposed 100-year Flood Elevations are:

Source of flooding	Location	Elevation in feet above mean sea level	Width in feet from bank of stream to 100-yr flood boundary facing downstream	
			Left	Right
East Branch, Chester Creek.	Southeast corporate limits	257	40	680
	Westtown Rd	278	80	190
	Northwest corporate limits	306	80	380
Stony Brook Run	do	287	1,000	90
Shadygrove Way Run	Westtown Rd	270	290	340
	Shadygrove Way	290	200	40
	Footbridge near river mile 1.0	303	50	85
West fork of east branch, Chester Creek.	Southeast corporate limits	263	75	350
	Westbourne Rd	265	260	190
	South Concord Rd	276	130	80
	Farm Lane	283	270	80
Goose Creek	Westbourne Rd	270	25	280
	Con Rail	315	40	70
	Oakbourne Rd	328	300	70
	Northwest corporate limits	333	180	20
Shiloh Road Run	Con Rail	292	215	220

(National Flood Insurance Act of 1968 (Title XIII of Housing and Urban Development Act of 1968), effective January 28, 1969 (33 FR 17804, November 28, 1968), as amended; 42 U.S.C. 4001–4128; and Secretary's delegation of authority to Federal Insurance Administrator 34 FR 2680, February 27, 1969, as amended by 39 FR 2787, January 24, 1974.)

HOWARD B. CLARK,
Acting Federal Insurance Administrator.

[FR Doc.76-27885 Filed 9-24-76;8:45 am]

DEPARTMENT OF TRANSPORTATION

Coast Guard

[33 CFR Chapter I]

[CGD 76-183]

BOATING SAFETY

Advance Notice of Proposed Rulemaking for Visual Distress Signals on Boats

● *Purpose.* The purpose of this advance notice of proposed rulemaking is to solicit public participation in the formulation of a proposed rule that would require operators to carry visual distress signaling devices on boats. ●

In a survey conducted by the Coast Guard in 1974, the Coast Guard found that approximately 782,000 boating incidents occurred in 1973 on the waters of the United States in which operators found that they were in need of rescue or assistance. One-third of these operators did not receive any assistance when they felt they needed it. In another study conducted by the Coast Guard, it was found that up to 45 percent of the search and rescue incidents responded to by the Coast Guard would have been facilitated in some way if the operators had had a means to alert someone of their predicament or to assist in determining their location. The Coast Guard believes that a visual signaling device designed to alert a potential rescuer and to assist rescuers in locating a distressed vessel would be effective in many of these situations. Such signals would reduce the time required for rescue or assistance and would lessen the risk of further mishap to the distressed boater due to prolonged exposure in a distress situation.

This advance notice of proposed rulemaking is being issued because the Coast Guard seeks public assistance in developing a rule for the carriage of visual distress signals. Comments are requested on the following areas of specific interest and any other area pertaining to this problem.

A. APPLICABILITY

(1) The Coast Guard has gathered extensive distress incident statistics for the coastal waters of the United States, including the Great Lakes, but has little information pertaining to inland waters. Should visual signaling devices be required only on boats operating on coastal waters, or should this be extended to inland waters? If so, which waters, and why?

(2) There are several thousand boats such as dinghies, rowboats, canoes, small sailing and powered vessels, which never venture far from shore. However, there is no clear distinction as to which boats get into distress situations and which do not. Almost 65 percent of all boats are less than 16 feet in length and storage space is a problem in many of them. Should carriage requirements be based upon the length of a boat or upon operating environment (type or body of water)? If "operating environment", should the many very small craft be excepted from carriage requirements? If so, which boats, and how many can they be excepted?

B. SIGNALING DEVICES

(1) Based upon Coast Guard search and rescue statistics, boating density information, manufacturers' data on potential visual distress signaling devices and various test results, a realistic minimum visible detection range under average visibility conditions for potential signaling devices appears to be one mile by day and three miles by night. This is predicated upon the premise that a minimum visible range must be established if a device is to be of any use to its user as an alerting or locating device. From available information, the following devices appear to meet that criteria: flag or panel and pyrotechnic smoke for day signals; flares (hand-held and aerial), "strobe" light and flashlight for night signals. Are there other devices which would meet the visibility criteria which should be considered? If so, which devices? Test data or other substantiating information is desired.

(2) By decreasing the minimum nighttime visible detection range, other potential signaling devices would be chemical lights and retro-reflective materials. Should the nighttime detection range be something less than three miles? If so, what distance and for what reason? What other devices might then qualify as potential signaling equipment?

(3) What specifications should be established for potential signaling devices to ensure the following: reliability under use and storage conditions; safety in use; operator ease in activating and using; desired minimum visible detection range; minimum operating and shelf life? What other specification should be considered?

(4) What is the optimum operating and shelf life for the various devices, consistent with goals of minimal cost with maximum benefit to the consumer?

(5) Can the circuitry in "strobe" lights be designed so that the "strobe" will emit a distinctive signal which cannot be mistaken for an aid to navigation or other established use? What would be the difference in cost over the cost of a standard "strobe"?

C. ECONOMIC IMPACT

(1) What will be the approximate retail cost of each device to the consumer?

(2) What will be the annualized cost to the boat owner?

D. ENVIRONMENTAL IMPACT

(1) What will be the impact upon the environment of a requirement to carry visual distress signals on boats?

(2) Will the carriage of pen guns and flare pistols conflict with any State laws or local ordinances?

The National Boating Safety Council (NBSAC) was consulted and they concurred that a need exists for the carriage of visual distress signaling equipment on boats. The minutes of this meeting are available from the Commandant (G-BA), U.S. Coast Guard, Washington, D.C. 20590, or in room 4224, 2100 Second Street, S.W., Washington, D.C.

Any interested person may submit written data, views or arguments concerning this notice of the Executive Secretary, Marine Safety Council, U.S. Coast Guard, Room 8117, 400 7th Street, S.W., Washington, D.C. 20590. Each person submitting a comment should include his name and address, identify this notice (CGD 76-183) and the specific subject matter in this notice to which his comment applies, and give the reason for his comments.

All comments received before February 1, 1977, will be considered before further action is taken on this proposal. Copies of all written comments received will be available for examination by interested persons in Room 8117, Nassif Building, 400 Seventh Street, S.W., Washington, D.C. If the Coast Guard determines, after an evaluation of the comments received, that it is in the public interest to proceed further with this rulemaking, a notice of proposed rulemaking will be issued.

(46 U.S.C. 1454, 49 CFR 1.46(n) (1).)

Dated: September 22, 1976.

D. F. LAUTH,
Chief, Office of Boating Safety.

[FR Doc.76-28202 Filed 9-24-76;8:45 am]

Federal Aviation Administration

[14 CFR Part 71]

[Airspace Docket No. 76-GL-27]

FEDERAL AIRWAYS

Proposed Alteration

The Federal Aviation Administration (FAA) is considering an amendment to Part 71 of the Federal Aviation Regulations that would:

(1) Add a north alternate to V-26 between Lansing, Mich., and Salem, Mich.;

(2) Revoke a segment of V-98 from the Hudson intersection to Carleton, Mich.;

(3) Realign V-100 between Litchfield, Mich., and Carleton, Mich.;

(4) Realign V-275 between Salem, Mich., and Dayton, Ohio.

Interested persons may participate in the proposed rule making by submitting such written data, views or arguments as they may desire. Communications should identify the airspace docket number and be submitted in triplicate to the Director, Great Lakes Region, Attention: Chief, Air Traffic Division, Federal Aviation Administration, 2300 East Devon, Des Plaines, Ill. 60018. All communications received on or before October 27, 1976, will be considered before action is taken on the proposed amendment. The proposal contained in this notice may be changed in the light of comments received.

An official docket will be available for examination by interested persons at the Federal Aviation Administration, Office of the Chief Counsel, Attention: Rules Docket, AGC-24, 800 Independence Avenue, S.W., Washington, D.C. 20591. An informal docket also will be available for examination at the office of the Regional Air Traffic Division Chief.

Request for copies of this Notice of Proposed Rule Making should be addressed to the Federal Aviation Administration, Office of Public Affairs, Attention: Public Information Center, APA-320, 800 Independence Avenue, S.W., Washington, D.C. 20591.

The proposed amendment would:

1. Amend V-26 by adding a north alternate between Lansing, Mich., and Salem, Mich., via the Lansing 103° T (105° M) and the Salem 308° T (311° M) radials.

2. Revoke the segment of V-98 from INT Litchfield, Mich., 126° T (127° M) and Carleton, Mich., 249° T (252° M) radials to Carleton.

3. Realign V-100 between Litchfield, Mich., and Carleton, Mich., via INT Litchfield 104° T (105° M) and Carleton 258° T (261° M) radials.

4. Realign V-275 between Salem, Mich., and Dayton, Ohio, via Dayton 007° T (008° M) and Salem 202° T (205° M) radials.

This proposed action would improve and expedite movement of IFR traffic and provide continuous preferential routing between Salem, Mich., and Dayton, Ohio.

This amendment is proposed under the authority of section 307(a) of the Federal Aviation Act of 1958 (49 U.S.C. 1348(a)) and section 6(c) of the Department of Transportation Act (49 U.S.C. 1655(c)).

Issued in Washington, D.C., on September 21, 1976.

WILLIAM E. BROADWATER,
Chief, Airspace and Air Traffic Rules Division.

[FR Doc.76-28147 Filed 9-24-76;8:45 am]

[14 CFR Part 71]

[Airspace Docket No. 76-GL-36]

TRANSITION AREA

Proposed Alteration

The Federal Aviation Administration is considering amending Part 71 of the Federal Aviation Regulations so as to alter the transition area at Lone Rock, Wisconsin.

Interested persons may participate in the proposed rule making by submitting such written data, views, or arguments as they may desire. Communications should be submitted in triplicate to the Director, Great Lakes Region, Attention: Chief, Air Traffic Division, Federal Aviation Administration, 2300 East Devon, Des Plaines, Illinois 60018. All communications received on or before October 27, 1976, will be considered before action is taken on the proposed amendment. No public hearing is contemplated at this time, but arrangements for informal conferences with Federal Aviation Administration officials may be made by contacting the Regional Air Traffic Division Chief.

Any data, views, or arguments presented during such conferences must also be submitted in writing in accordance with this notice in order to become part of the record for consideration. The proposal contained in this notice may be changed in the light of comments received.

A public docket will be available for examination by interested persons in the Office of the Regional Counsel, Federal Aviation Administration, 2300 East Devon, Des Plaines, Illinois 60018.

The rule proposed herein has been reviewed in accordance with Executive Order 11821, titled "Inflation Impact Statements" (39 FR 41501, November 29, 1974), and it has been determined that an inflation impact statement is not required.

An instrument approach procedure has been developed for the Richland Airport, Richland Center, Wisconsin. Controlled airspace is required to protect the procedure. It is proposed to include this airspace in the Lone Rock transition area.

In consideration of the foregoing, the Federal Aviation Administration proposes to amend Part 71 of the Federal Aviation Regulations as hereinafter set forth:

In § 71.181 (41 FR 440), the following transition area is amended to read:

LONE ROCK, WISCONSIN

That airspace extending upward from 700′ above the surface within a 5.5-mile radius of the Tri-County Airport (latitude 43°12′36″ N; longitude 90°11′06″ W); within a 10-mile radius of the Richland Airport (latitude 43°16′55″ N; longitude 90°16′52″ W).

This amendment is proposed under the authority of section 307(a) of the Federal Aviation Act of 1958 (49 U.S.C. 1348), and of section 6(c) of the Department of Transportation Act (49 U.S.C. 1655(c)).

Issued in Des Plaines, Ill., on September 3, 1976.

LEON C. DAUGHERTY,
Acting Director, Great Lakes Region.

[FR Doc.76-28150 Filed 9-24-76;8:45 am]

[14 CFR Part 71]

[Airspace Docket No. 76-GL-35]

TRANSITION AREA

Proposed Designation

The Federal Aviation Administration is considering amending Part 71 of the Federal Aviation Regulations so as to designate a transition area at Boscobel, Wisconsin.

Interested persons may participate in the proposed rule making by submitting such written data, views or arguments as they may desire. Communications should be submitted in triplicate to the Director, Great Lakes Region, Attention: Chief, Air Traffic Division, Federal Aviation Administration, 2300 East Devon, Des Plaines, Illinois 60018. All communications received on or before October 27, 1976, will be considered before action is taken on the proposed amendment. No public hearing is contemplated at this time, but arrangements for informal conference with Federal Aviation Administration officials may be made by contacting the Regional Air Traffic Division Chief.

Any data, views or arguments presented during such conferences must also be submitted in writing in accordance with this notice in order to become part of the record for consideration. The proposal contained in this notice may be changed in the light of comments received.

A public docket will be available for examination by interested persons in the Office of the Regional Counsel, Federal Aviation Administration, 2300 East Devon, Des Plaines, Illinois 60018.

The rule proposed herein has been reviewed in accordance with Executive Order 11821, titled "Inflation Impact Statements" (39 FR 41501, November 29, 1974), and it has been determined that an inflation impact statement is not required.

An instrument approach procedure has been developed for the Boscobel, Wisconsin Airport. Controlled airspace is required to protect the procedure.

In consideration of the foregoing, the Federal Aviation Administration proposes to amend Part 71 of the Federal Aviation Regulations as hereinafter set forth:

In § 71.181 (41 FR 440), the following transition area is added:

BOSCOBEL, WISCONSIN

That airspace extending upward from 700′ above the surface within an 8½ mile radius of the Boscobel Airport (latitude 43°09′30″ N; longitude 90°40′45″ W).

This amendment is proposed under the authority of section 307(a) of the Federal Aviation Act of 1958 (49 U.S.C. 1348), and of section 6(c) of the Department of Transportation Act (49 U.S.C. 1655(c)).

Issued in Des Plaines, Ill., on September 3, 1976.

LEON C. DAUGHERTY,
Acting Director, Great Lakes Region.

[FR Doc.76-28149 Filed 9-24-76;8:45 am]

[14 CFR Part 71]

[Airspace Docket No. 76-RM-19]

TRANSITION AREA

Proposed Designation

The Federal Aviation Administration is considering an amendment to Part 71 of the Federal Aviation Regulations which would designate a transition area at Sterling, Colorado.

Interested persons may participate in the proposed rule making by submitting such written data, views, or arguments as they may desire. Communications should be submitted in triplicate to the Chief, Air Traffic Division, Federal Aviation Administration, 10455 East 25th Avenue, Aurora, Colorado 80010. All communications received on or before October 27, 1976, will be considered before action is taken on the proposed amendment. No public hearing is contemplated at this time, but arrangements for informal conferences with Federal Aviation Administration officials may be made by contacting the Regional Air Traffic Division Chief. Any data, views, or arguments presented during such conferences must also be submitted in writing in accordance with this notice in order to become part of the record for consideration. The proposal contained in this notice may be changed in the light of comments received.

A public docket will be available for examination by interested persons in the office of the Regional Counsel, Federal Aviation Administration, 10455 East 25th Avenue, Aurora, Colorado 80010.

A public instrument approach procedure has been developed using a non-Federal, nondirectional radio beacon at Sterling, Colorado. It is necessary to establish a transition area to provide controlled airspace protection for aircraft executing this procedure.

In consideration of the foregoing, the FAA proposes the following airspace action:

In Federal Aviation Regulation § 71.181 (41 FR 440) add the following transition area:

STERLING, COLORADO

That airspace extending upward from 700 feet above the surface within a 10.5 mile radius of the Crosson Field Airport (latitude 40°36′58″ N., longitude 103°15′48″ W.) and that airspace within 9.5 miles west and 4.5 miles east of the 163° T bearing from the Batten NDB (latitude 40°31′56″ N., longitude 103°13′45″ W.) extending from the 10.5 mile radius area to 18.5 miles south of the Batten NDB and within 5 miles each side of the 023° T bearing from Crosson Field extending from the 10.5 mile radius area to 23.5 miles northeast of Crosson Field Airport.

(Sec. 307(a) of the Federal Aviation Act of 1958, as amended (49 U.S.C. 1348(a)), and of sec. 6(c) of the Department of Transportation Act (49 U.S.C. 1655(c)).)

Issued in Aurora, Colorado, on September 17, 1976.

M. M. MARTIN,
Director, Rocky Mountain Region.

[FR Doc.76-27967 Filed 9-24-76;8:45 am]

[14 CFR Part 75]

[Airspace Docket No. 76-RM-18]

JET ROUTE

Proposed Alteration

The Federal Aviation Administration (FAA) is considering an amendment to Part 75 of the Federal Aviation Regulations that would realign a jet route between Kiowa, Colo., and Salina, Kans.

Interested persons may participate in the proposed rule making by submitting such written data, views or arguments as they may desire. Communications should identify the airspace docket number and be submitted in triplicate to the Director, Rocky Mountain Region, Attention: Chief, Air Traffic Division, Federal Aviation Administration, 10455 East 25th Avenue, Aurora, Colo. 80010. All communications received on or before October 27, 1976, will be considered before action is taken on the proposed amendment. The proposal contained in this notice may be changed in the light of comments received.

An official docket will be available for examination by interested persons at the Federal Aviation Administration, Office of the Chief Counsel, Attention: Rules Docket AGC-24, 800 Independence Avenue, S.W., Washington, D.C. 20591. An informal docket will also be available for examination at the office of the Regional Air Traffic Division Chief.

Request for copies of this Notice of Proposed Rule Making should be addressed to the Federal Aviation Administration, Office of Public Affairs, Attention: Public Information Center, APA-230, 800 Independence Avenue, S.W., Washington, D.C. 20591.

The proposed amendment would revoke the portion of Jet Route 24 between Hill City, Kans., and Salina, Kans., and add a segment to J-24 from over Kiowa, Colo., via Hugo, Colo.; Hays, Kans., to Salina, Kans.

This proposed action is principal to Denver ARTC Center's planned traffic flow for metering and profile descent procedures into Stapleton Airport, Denver, Colo.

This amendment is proposed under the authority of section 307(a) of the Federal Aviation Act of 1958 (49 U.S.C. 1348(a)) and section 6(c) of the Department of Transportation Act (49 U.S.C. 1655(c)).

Issued in Washington, D.C., on September 21, 1976.

WILLIAM E. BROADWATER,
Chief, Airspace and Air Traffic Rules Division.

[FR Doc.76-28148 Filed 9-24-76;8:45 am]

Federal Highway Administration

[23 CFR Part 645]

[FHWA Docket No. 76-16]

UTILITIES

Advance Notice of Proposed Rulemaking

The Federal Highway Administration is now considering a routine updating of its existing administrative requirements concerning utility relocation and adjustments (23 CFR Part 645 Subpart A) and accommodation of utilities (23 CFR Part 645 Subpart B). No significant changes to the existing utility-highway requirements are contemplated at this time.

Interested persons are invited to submit any views or comments they may desire with respect to updating the requirements of 23 CFR Part 645, on Utilities. Any communication should be identified by Docket No. 76-16 and be submitted to the Federal Highway Administration, Room 4230, Docket No. 76-16, 400 7th Street SW., Washington, D.C. 20590. All communications should be received no later than November 1, 1976.

This advance notice of proposed rulemaking is issued under the authority of 23 U.S.C. 315 and 49 CFR 1.48(b).

Issued on: September 22, 1976.

J. R. Coupal, Jr.,
Deputy Federal Highway Administrator.

[FR Doc.76-28245 Filed 9-24-76;8:45 am]

Federal Highway Administration

Urban Mass Transportation Administration

[23 CFR Part 476]

[FHWA Docket No. 76-15]

INTERSTATE HIGHWAY SYSTEM

Advance Notice of Proposed Rulemaking

In the November 17, 1975, edition of the Federal Register (40 FR 53352), the Federal Highway Administration (FHWA) and the Urban Mass Transportation Administration (UMTA) published proposed regulations adding a new Subpart E to Part 476 (Interstate Highway System) to prescribe the treatment to be given Federal monies reimbursed to States in consideration of obligations incurred on Interstate segments withdrawn pursuant to 23 U.S.C. 103 (e) (2) and (e) (4). However, section 110(b) of the Federal-Aid Highway Act of 1976 amended 23 U.S.C. 103(e) (4) to provide that in the event a withdrawal of approval is accepted pursuant to 23 U.S.C. 103(e), the State shall not be required to refund to the Highway Trust Fund any sums previously paid to the State for the withdrawn route or portion of the Interstate System as long as the sums were applied to a transportation project permissible under title 23. In view of the substantive changes necessary to the previously proposed regulations, this advance notice of proposed rulemaking is being issued to assist in the development of the proposed rules. This advance notice supersedes the notice of proposed rulemaking published in the November 17, 1975, Federal Register.

Interested persons are invited to participate in the making of the proposed rules by submitting such written data, views, or arguments as they may desire with respect to the treatment to be given to Federal monies reimbursed the State in consideration of obligations incurred on Interstate segments withdrawn pursuant to 23 U.S.C. 103. Any communication should be identified by Docket No. 76-15 and be submitted to the Federal Highway Administration, Room 4230, Docket No. 76-15, 400 7th Street SW., Washington, D.C. 20590. All communications should be received no later than October 15, 1976.

This advance notice of proposed rulemaking is issued under the authority of 23 U.S.C. 103(e) (2) and 103(e) (4) and the delegation of authority by the Secretary of Transporation at 48 CFR 1.48(b) and 1.51(f).

Issued on: September 21, 1976.

Robert E. Patricelli,
Urban Mass Transportation Administrator.

J. R. Coupal, Jr.,
Deputy Federal Highway Administrator.

[FR Doc.76-28246 Filed 9-24-76;8:45 am]

Office of Pipeline Safety Operation

[49 CFR Part 192]

[Notice No. 76-1; Docket No. OPSO-37]

TRANSPORTATION OF NATURAL AND OTHER GAS BY PIPELINE

Corrosion Control for Small Metal Fittings in Plastic Pipelines

The Materials Transportation Bureau (MTB) is considering an amendment to the external corrosion control requirements of § 192.455 with regard to alloy metallic fittings which are part of plastic pipelines.

Under the existing § 192.455, any metallic fitting which is part of a plastic pipeline must be coated and cathodically protected in accordance with applicable requirements unless the operator of the pipeline can demonstrate by certain tests, investigation, or experience in the area of application that a corrosive environment does not exist, or for a temporary installation of five years or less, corrosion of the fitting will not be detrimental to public safety. However, when an installation intended to last more than five years is made without cathodic protection, the operator is required to make electrical tests within six months after the installation to adequately evaluate the fitting and apply cathodic protection if a corrosive condition is found. Thereafter, § 192.465 requires that if a metallic fitting in a plastic pipeline is not protected under § 192.455, it must be reevaluated every three years by electrical tests or other allowable methods and cathodically protected where active corrosion is found.

The purpose of these cathodic protection requirements is to mitigate or eliminate the damaging effects of external electrochemical corrosion on buried or submerged pipelines. Without protection, depending on the corrosivity of the environment and other relevant factors, an ordinary metal fitting can corrode at a rapid rate causing leaks which are a risk to public safety. The cost of protection is normally offset by a reduction in the number of leaks repair, the number of sections of pipeline replaced, and the operator's liability for personal injury or property damage.

In recent years, small fittings made of corrosion resistant alloys have been marketed for use in joining lengths of plastic pipe or plastic components. These fittings have the safety advantage of providing a secure joint without the need for skilled installation personnel. Depending on the alloy and corrosive environment involved, they also appear to control electrochemical corrosion without cathodic protection. Also, electrical isolation of the fittings by the plastic pipelines probably contributes to their corrosion control capabilities. Nevertheless, because of the cost of material and labor, these advantages cannot be fully realized if the fitting must be cathodically protected or initially tested and frequently monitored as now required by §§ 192.455 and 192.465.

Historically, corroded metallic fittings have accounted for a high number of gas pipeline leaks. However, recent research and field experience indicate that cathodic protection is not always justified for certain corrosion resistant alloy fittings used in plastic pipelines. In a petition for rulemaking (Docket No. Pet. 74-15), AMP Incorporated argues that the application of cathodic protection to its short fittings with metallic parts made of Type 316 stainless steel is not necessary for safety when the fittings are in an otherwise all plastic pipeline. As a basis for its argument, AMP points to a study of underground corrosion on alloy steels reported in National Bureau of Standards Circular 579, p. 50. The study shows that specimens of Type 316 stainless steel did not exhibit any substantial corrosion after burial in 15 different soils for 13 years.

AMP further argues that because of their small size, isolated fittings in plastic pipelines, normally between ½ and 6 inches in diameter, are not as susceptible to corrosion as larger components. In support of this contention, AMP refers to NBS Paper 69C 1-188, which shows that a large metallic body will have deeper pit depths than a small body in the same soil and time. Also, AMP states that for small fittings, material composition and surrounding soil conditions are more likely to be homogeneous, thus minimizing the opportunity for corrosion. These size advantages must, of course, be balanced against the possibility that "local" corrosion cells might damage the fitting. Even so, MTB believes that smallness is a factor in favor of the proposition that cathodic protection is not necessary for fittings made of appropriate corrosion resistant alloys which are used in plastic pipelines.

In a petition dated May 11, 1976, before the California Public Utilities Commission for waiver from § 192.455, the Pacific Gas and Electric Company (PG&E) states that it has installed in plastic pipelines over 500,000 fittings made of nonsensitized Type 316 stainless steel. In support of its petition, PG&E submitted a report of a study of the corrosion resistance of the fittings. In the study, a random sample of 200 fittings in service from one to five years in various soils was uncovered and examined. PG&E reports that none of the fittings, 50 of which were bare, exhibited any evidence of corrosion.

Previously, the California Commission granted the Southern California Gas Company a temporary waiver from § 192.455 for the use of Type 316 stainless steel risers and fittings in plastic service lines. This waiver was sanctioned by the Department under section 3(e) of the Natural Gas Pipeline Safety Act of 1968 on October 30, 1973 (Docket CA-73-1). Three other State agencies have granted waivers for the use of Type 316 stainless steel fittings in plastic pipelines: The Rhode Island Public Utilities Commission (Docket RI-75-1), the Tennessee Public Service Commission (Docket TN-75-1), and the Florida Public Service Commission (Docket FLA-76-1). However, MTB stayed each of the three waivers on grounds related to the corrosiveness of the soils in which the fittings would be buried.

MTB has thoroughly reviewed the literature concerning the effects of corrosion on Type 316 stainless steel and similar corrosion resistant alloys. From this review and information discussed herein, it appears that no alloy provides complete protection against corrosion in every environment. Still, if a corrosion resistant alloy is selected on the basis of tests, investigation, or experience to determine the corrosivity of the environment involved, MTB believes that a small fitting made from that alloy can, by itself, provide protection against electrochemical corrosion when installed in a plastic pipeline in that environment.

A troubling fact is that the duration of protection by alloyage alone is difficult to predict. This difficulty exists because of the relatively small amount of actual field experience with corrosion resistant alloy fittings in plastic pipelines, the absence of testing procedures which can precisely indicate the degree of corrosivity and associated rate of corrosion, and the possibility that the corrosivity of the environment will change. However, MTB does not consider the uncertainty of duration a serious concern for those fittings which by design will not cause gas leakage in the event that some corrosion pitting does occur in the alloy. At least one fitting currently available on the market appears to meet this design criterion.

In light of these findings, MTB is proposing that § 192.455 be amended to allow the installation of small, electrically isolated alloy fittings in plastic pipelines without coating and cathodic protection if (1) an operator can show by tests, investigation, or experience in the area of application, that corrosion control is provided by alloyage, and (2) the fitting is designed to prevent leakage caused by localized corrosion pitting.

In consideration of the foregoing, MTB proposes to amend § 192.455 by amending paragraph (a) and adding paragraph (f) to read as follows:

§ 192.455 External corrosion control: Buried or submerged pipelines installed after July 31, 1971.

(a) Except as provided in paragraphs (b), (c), and (f) of this section, each buried or submerged pipeline installed after July 31, 1971, must be protected against external corrosion, including the following:

* * * * *

(f) This section does not apply to small, electrically isolated alloy fittings in plastic pipelines if—

(1) An operator can show by tests, investigation, or experience in the area of application that adequate corrosion control is provided by alloyage; and

(2) The fitting is designed to prevent leakage caused by localized corrosion pitting.

Interested persons are invited to participate in this rulemaking action by submitting such written data, views, or arguments as they may desire. Communications should identify the regulatory docket and notice numbers and be submitted in triplicate to the Director, Office of Pipeline Safety Operations, Department of Transportation, 2100 Second St., SW., Washington, D.C. 20590. All communications received by November 1, 1976, will be considered before final action is taken on the notice. Late filed comments will be considered so far as practicable. All comments will be available for examination by interested persons at the Office of Pipeline Safety Operations before and after the closing date for comments. The proposal contained in this notice may be changed in the light of comments received.

MTB is especially interested in receiving comments on what size fitting should be excepted from the requirements of § 192.455 under the proposed amendment. AMP's petition indicates that fittings between ½ and 6 inches in diameter may provide better corrosion control than larger ones. The proposal applies to fittings which are "small" in size because smallness appears to be a factor in the corrosion control capability of alloy fittings in plastic pipelines. Although the word "small" provides a rather indefinite description, MTB does not know how large a fitting could be installed and still provide corrosion control.

INFLATION IMPACT

Based on applicable inflationary impact criteria, MTB considers this rulemaking proposal "minor" and not requiring the preparation of an Inflation Impact Statement.

(Sec. 3, Pub. L. 90-481, 82 Stat. 721, 49 U.S.C. 1672; 40 FR 43901, 49 CFR 1.53.)

Issued in Washington, D.C., on September 22, 1976.

CESAR DELEON,
Acting Director, Office of Pipeline Safety Operations.

[FR Doc.76-28383 Filed 9-24-76;10:00 am]

notices

This section of the FEDERAL REGISTER contains documents other than rules or proposed rules that are applicable to the public. Notices of hearings and investigations, committee meetings, agency decisions and rulings, delegations of authority, filing of petitions and applications and agency statements of organization and functions are examples of documents appearing in this section.

DEPARTMENT OF STATE

Agency for International Development

[Loan No. 526-T-027]

DIRECTOR, USAID—PARAGUAY

Delegation of Authority

Pursuant to the authority vested in me as Deputy United States Coordinator, Alliance for Progress, by the Foreign Assistance Act of 1961, as amended and the delegations of authority issued thereunder, I hereby delegate to the Director, USAID/Paraguay, the authority to negotiate, execute, and implement an amendment to A.I.D. Loan Agreement No. 526-T-027 between the Government of Paraguay and the United States pursuant to Loan Authorization Amendment No. 1 signed September 3, 1976.

This delegation of authority shall be effective for 120 days from the date of the signing of amended Loan Authorization.

Dated: September 3, 1976.

DONOR M. LION,
Acting Deputy U.S. Coordinator.

[FR Doc.76-28198 Filed 9-24-76;8:45 am]

[Public Notice CM—6/100]

ADVISORY COMMITTEE ON THE LAW OF THE SEA

Rescheduled Meeting

Notice is hereby given that, in order to allow adequate time for preparation in view of the events of the last session of the Third United Nations Conference on the Law of the Sea, the Advisory Committee on the Law of the Sea, which, according to 41 FR 37819 of September 8, 1976, was to meet both in open and closed sessions on Friday, October 29 and Saturday, October 30, 1976, will now meet in closed session on Thursday, November 4 and in both closed and open session on Friday, November 5, 1976. The basis for the closed meeting is as originally stated in the FEDERAL REGISTER cited above.

The open session of the meeting will convene on Friday, November 5, 1976, at 2:00 p.m. in the International Conference Room, U.S. Department of State, 21st and C Street, NW., Washington, D.C.

Dated: September 20, 1976.

ROBERT C. BREWSTER,
Vice Chairman of the NSC Interagency Task Force on the Law of the Sea.

[FR Doc.76-28195 Filed 9-24-76;8:45 am]

[Public Notice CM-6/103]

NORTHWEST ATLANTIC FISHERIES ADVISORY COMMITTEE

Meeting

In accordance with section 10(d) of the Federal Advisory Committee Act, notice is given that the Northwest Atlantic Fisheries Advisory Committee to the U.S. Commissioners to the International Commission for the Northwest Atlantic Fisheries (ICNAF), will hold a meeting on Thursday, October 14, 1976, at the Office of the Commander, 1st Coast Guard District, Fourth Floor, Analex Building, 150 Causeway Street, Boston, Massachusetts.

The meeting will be devoted to discussions on and development of the U.S. negotiating position for the Special Meeting of ICNAF, to be held November 30 to December 9, 1976. Pursuant to section 4 of the Northwest Atlantic Fisheries Act of 1950, which provides that "the Advisory Committee * * * shall be given full opportunity to examine and to be heard on all proposed programs of investigation reports, and recommendations of the United States Commissioners * * *" the members of the Advisory Committee will examine the possible positions to be taken by the U.S. Commissioners. This discussion will necessarily involve discussion of classified national security information related to the Law of the Sea, the premature disclosure of which could reasonably be expected to cause damage to the national security (pursuant to Executive Order 11652) and would adversely affect the ability of the U.S. negotiators at the Special Meeting to achieve U.S. fisheries and foreign policy objectives. As it has been determined that the meeting will involve discussion of matters exempt from public disclosure under 5 U.S.C. 552(b)(1) and that the public interest requires that such discussions be withheld from disclosure, the meeting will not be open to the public.

Dated: September 22, 1976.

LEO N. SCHOWENGERDT, Jr.,
Office of Oceans and Fisheries Affairs.

[FR Doc.76-28244 Filed 9-24-76;8:48 am]

[Public Notice CM-6/100]

SHIPPING COORDINATING COMMITTEE SUBCOMMITTEE ON SAFETY OF LIFE AT SEA

Meeting

The working group on radiocommunications of the Subcommittee on Safety of Life at Sea, a subcommittee of the Shipping Coordinating Committee, will hold an open meeting at 1:30 p.m. on Thursday, October 21, 1976, in Room 8440 of the Department of Transportation, 400 Seventh Street, SW., Washington, D.C.

The purpose of the meeting is to prepare position documents for the 17th Session of the Subcommittee on Radiocommunications of the Intergovernmental Maritime Consultative Organization (IMCO), scheduled to be held in London in February, 1977. In particular, the working group will discuss the following topics:

Promulgation of navigational warnings to shipping.
Training and qualification of radio officers, radio operators and radio telephone operators.
Operational standards for shipboard radio equipment.
Operational requirements for emergency position—indicating radio beacons and portable radio apparatus for survival craft.
Matters resulting from the World Maritime Administrative Radio Conference, 1974, and the work of the International Radio Consultative Committee.

Requests for further information on the meeting should be directed to Lt. F. N. Wilder, United States Coast Guard. He may be reached by telephone on (area code 202) 426-1345.

The Chairman will entertain comments from the public as time permits.

CARL TAYLOR, Jr.,
Acting Director, Office of Maritime Affairs.

SEPTEMBER 15, 1976.

[FR Doc.76-28196 Filed 9-24-76;8:45 am]

[Public Notice 502]

DRAFT PROTOCOL TO THE AGREEMENT ON THE IMPORTATION OF EDUCATIONAL, SCIENTIFIC AND CULTURAL MATERIALS

Text of Draft Protocol

The Department of State hereby gives notice that the following draft Protocol to the Agreement on the Importation of Educational, Scientific and Cultural Materials will be submitted to the UNESCO General Conference which will convene in Nairobi, Kenya, on October 26, 1976. The purpose of the Protocol is to extend the provisions of the Agreement (commonly referred to as the Florence Agreement) to cover the additional categories of materials listed in Annexes A through H. The basic purpose of both the Agreement and this Protocol is to facilitate the international flow of educational, scientific and cultural materials by exempting a specific list of such materials from customs duties and certain other importation charges among the contracting nations.

The Department of State invites comments on the draft Protocol and requests they be submitted to the Office of International Arts Affairs, Bureau of Educational and Cultural Affairs, Room 422, 515 22nd Street, NW., Washington, D.C. 20520 (202-632-2802) no later than October 15, 1976.

Dated: September 22, 1976.

GUY E. CORIDEN,
Director, Office of International Arts Affairs.

DRAFT PROTOCOL TO THE AGREEMENT ON THE IMPORTATION OF EDUCATIONAL, SCIENTIFIC AND CULTURAL MATERIALS

The contracting States parties to the Agreement on the Importation of Educational, Scientific and Cultural Materials, adopted by the General Conference of the United Nations Educational, Scientific and Cultural Organization at its fifth session held in Florence in 1950,

Reaffirming the principles on which the Agreement, hereinafter called "the Agreement", is based,

Considering that this Agreement has proved to be an effective instrument in lowering customs barriers and reducing other economic restrictions that impede the exchange of ideas and knowledge,

Considering, nevertheless, that in the quarter of a century following the adoption of the Agreement, technical progress has changed the ways and means of transmitting information and knowledge, which is the fundamental objective of that Agreement,

Considering, further, that the developments that have taken place in the field of international trade during this period have, in general, been reflected in greater freedom of exchanges,

Considering that since the adoption of the Agreement, the international situation has changed radically owing to the development of the international community, in particular through the accession of many States to independence,

Considering that the needs and concerns of the developing countries should be taken into consideration, with a view to giving them easier and less costly access to education, science, technology and culture,

Recalling the provisions of the Convention on the means of prohibiting and preventing the illicit import, export and transfer of ownership of cultural property, adopted by the General Conference of Unesco in 1970, and those of the Convention concerning the protection of the world cultural and natural heritage, adopted by the General Conference in 1972,

Recalling, moreover, the customs conventions concluded under the auspices of the Customs Cooperation Council, in consultation with the United Nations Educational, Scientific and Cultural Organization, concerning the temporary importation of educational, scientific and cultural materials,

Convinced that new arrangements should be made and that such arrangements will contribute even more effectively to the development of education, science and culture which constitute the essential bases of economic and social progress,

Recalling resolution 4.112 adopted by the General Conference of Unesco at its eighteenth session,

Have agreed as follows:

I

1. The contracting States undertake to extend to the materials listed in Annexes A, B, D and E and also, where the annexes in question have not been the subject of a declaration under paragraph 16(a) below, Annexes C.1, F, G and H, to the present protocol exemption from customs duties and other charges on, or in connection with, their importation, as set out in Article I, paragraph 1, of the Agreement, provided such materials fulfil the conditions laid down in these annexes and are the products of another contracting State.

2. The provisions of paragraph 1 of this protocol shall not prevent any contracting State from levying on imported materials:

(a) Internal taxes or any other internal charges of any kind, imposed at the time of importation or subsequently, not exceeding those applied directly or indirectly to like domestic products;

(b) Fees and charges, other than customs duties, imposed by governmental or administrative authorities on, or in connection with, importation, limited in amount to be approximate cost of the services rendered, and representing neither an indirect protection to domestic products nor a taxation of imports for revenue purposes.

II

3. Notwithstanding paragraph 2(a) of this protocol, the contracting States undertake not to levy on the materials listed below any internal taxes or other internal charges of any kind, imposed at the time of importation or subsequently:

(a) Books and publications consigned to the libraries referred to in paragraph 5 of this protocol;

(b) Official, parliamentary and administrative documents published in their country of origin;

(c) Books and publications of the United Nations or any of its Specialized Agencies;

(d) Books and publications received by the United Nations Educational, Scientific and Cultural Organization and distributed free of charge by it or under its supervision;

(e) Publications intended to promote tourist travel outside the country of importation, sent and distributed free of charge:

(f) Articles for the blind, provided that equivalent objects are not being manufactured in the country of importation:

(i) Books, publications and documents of all kinds in raised characters for the blind;

(ii) Other articles speciall designed for the educational, scientific or cultural advancement of the blind which are imported directly by institutions or organizations concerned with the education of, or assistance to the blind, approved by the competent authorities of the importing country for the purpose of duty-free entry of these types of articles.

III

4. The contracting States undertake not to levy on the articles and materials referred to in the annexes to this protocol any customs duties, export duties or duties levied on goods leaving the country, or other internal taxes of any kind, levied on such articles and materials when they are intended for export to other contracting States.

IV

5. The contracting States undertake to extend the granting of the necessary licenses and/or foreign exchange provided for in Article II, paragraph 1, of the Agreement, to the importation of the following materials:

(a) Books and publications consigned to libraries serving the public interest, including the following:

(i) National libraries and other major research libraries;

(ii) General and specialized academic libraries, including university libraries, college libraries, institute libraries and university extra-mural libraries;

(iii) Public libraries;

(iv) School libraries;

(v) Special libraries serving a group of readers who form an entity, having particular and identifiable subjects of interest, such as government libraries, public authority libraries, industrial libraries and libraries of professional bodies;

(vi) Libraries for the handicapped and for readers who are unable to move around, such as libraries for the blind, hospital libraries and prison libraries;

(vii) Music libraries, including record libraries;

(b) Books adopted or recommended as textbooks in higher educational establishments and imported by such establishments;

(c) Books in foreign languages, with the exception of books in the principal native language or languages of the the importing country;

(d) Films, slides, video-tapes and sound recordings of an educational, scientific or cultural nature, imported by organizations approved by the competent authorities of the importing country for the purpose of duty-free entry of these types of articles.

V

6. The contracting States undertake to extend the granting of the facilities provided for in Article III of the Agreement to materials and furniture imported exclusively for showing at a public exhibition of objects of an educational, scientific or cultural nature approved by the competent authorities of the importing country and for subsequent re-exportation.

7. Nothing in the foreging paragraph shall prevent the authorities of an importing country from taking such steps as may be necessary to ensure that the materials and furniture in question will in fact be re-exported at the close of the exhibition.

VI

8. The contracting States undertake:

(a) to extend to the importation of the articles covered by the present protocol the provisions of Article IV of the Agreement;

(b) to encourage through appropriate measures the free flow and distribution of educational, scientific and cultural objects and materials produced in the developing countries.

VII

9. Nothing in this protocol shall affect the right of contracting States to take measures, in conformity with their legislation, to prohibit or limit the importation of articles, or their circulation after importation, on grounds relating directly to national security, public order or public morals.

10. Notwithstanding other provisions of this protocol, a developing country, which is defined as such by the practice established by the General Assembly of the United Nations and which is a party to the protocol, may suspend or limit the obligations under this protocol relating to importation of any object or material if such importation causes or threatens to cause serious injury to the nascent indigenous industry in that developing country. The country concerned shall implement such action in a non-discriminatory manner. It shall notify the Director-General of the United Nations Educational, Scientific and Cultural Organization of any such action, as far as practicable in advance of implementation, and the Director-General of the United Nations Educational, Scientific and Cultural Organization shall notify all parties to the protocol.

11. This protocol shall not modify or affect the laws and regulations of any contracting State or any of its international treaties, conventions, agreements or proclamations, with respect to copyright, trade marks or patents.

12. Subject to the provisions of any previous conventions to which they may have subscribed for the settlement of disputes, the contracting States undertake to have recourse to negotiation or conciliation with a view to settlement of any disputes regarding the interpretation or the application of this protocol.

13. In case of a dispute between contracting States relating to the educational, scientific or cultural character of imported materials, the interested parties may, by common agreement refer it to the Director-General of the United Nations Educational, Scientific and Cultural Organization for an advisory opinion.

VIII

14. (a) This protocol, of which the English and French texts are equally authentic, shall bear today's date and shall be open to signature by all States parties to the Agreement.

(b) This protocol shall be subject to ratification or acceptance by the signatory States in accordance with their respective constitutional procedures.

(c) The instruments of ratification or acceptance shall be deposited with the Secretary-General of the United Nations.

15(a) The States referred to in paragraph 14(a) which are not signatories of this protocol may accede to this protocl from. * * *

(b) Accession shall be effected by the deposit of a formal instrument with the Secretary-General of the United Nations.

16(a) The States referred to in paragraph 14(a) of this protocol may, at the time of signature, ratification, acceptance or accession, declare that they will not be bound by Part II, Part IV, Annex C.1, Annex F, Annex G and Annex H, or by any of these Parts or Annexes.

(b) Any contracting State which has made such a declaration may withdraw it, in whole or in part, at any time by notification to the Secretary-General of the United Nations, specifying the date on which such withdrawal takes effect.

(c) States which have declared, in accordance with sub-paragraph (a) of this paragraph, that they will not be bound by Annex C.1 shall necessarily be bound by Annex C.2.

17(a) This protocol shall come into force six months after the date of deposit of the fifth instrument of ratification, acceptance or accession with the Secretary-General of the United Nations.

(b) It shall come into force for every other State six months after the date of the deposit of its instrument of ratification, acceptance or accession.

(c) Within one month following the expiration of the periods mentioned in subparagraphs (a) and (b) of this paragraph, the contracting States to this protocol shall submit a report to the United Nations Educational, Scientific and Cultural Organization on the measures which they have taken to give full effect to the protocol.

(d) The United Nations Educaticnal, Scientific and Cultural Organization shall transmit these reports to all States parties to this protocol.

18. The protocol annexed to the Agreement, and made an integral part thereof, as provided for in Article XVII of the Agreement, is hereby made an integral part of this protocol and shall apply to obligations incurred under this protocol and to products covered by this protocol.

19(a) Two years after the date of the coming into force of this protocol, any contracting State may denounce this protocol by an instrument in writing deposited with the Secretary-General of the United Nations.

(b) The denunciation shall take effect one year after the receipt of the instrument of denunciation.

(c) Denunciation of the Agreement pursuant to Article XIV thereof shall automatically imply denunciation of this protocol.

20. The Secretary-General of the United Nations shall inform the States referred to in paragraph 14(a), as well as the United Nations Educational, Scientific and Cultural Organization, of the deposit of all the instruments of ratification, acceptance or accession referred to in paragraphs 14 and 15; of declarations made and withdrawn under paragraph 16 of the dates of entry into force of this protocol in accordance with paragraph 17 (a) and (b); and of the denunciations provided for in paragraph 19.

21(a) This protocol may be revised by the General Conference of the United Nations Educational, Scientific and Cultural Organization. Any such revision, however, shall be binding only upon States that become parties to the revising protocol.

(b) Should the General Conference adopt a new protocol revising this protocol either totally or in part, and unless the new protocol provides otherwise, the present protocol shall cease to be open to signature, ratification, acceptance or accession as from the date of the coming into force of the new revising protocol.

22. This protocol shall not change or modify the Agreement.

23. Annexes A, B, C.1, C.2, D, E, F, G and H are hereby made an integral part of this protocol.

24. In accordance with Article 102 of the Charter of the United Nations, this protocol shall be registered by the Secretary-General of the United Nations on the date of its coming into force.

In faith whereof the undersigned, duly authorized, have signed this protocol on behalf of their respective governments.

ANNEX A

BOOKS, PUBLICATIONS AND DOCUMENTS

(i) Printed books, irrespective of the language in which they are printed and whatever the amount of space given over to illustrations, including the following:

(a) Luxury editions;

(b) Books printed abroad from the manuscript of an author resident in the importing country;

(c) Children's drawing and painting books;

(d) School exercise books (workbooks) with printed texts and blank spaces to be filled in by the pupils;

(e) Crossword puzzle books containing printed texts;

(f) Loose illustrations and printed pages in the form of loose or bound sheets to be used for the production of books.

(ii) Printed documents or reports of a non-commercial character.

(iii) Microforms of the articles listed under items (i) and (ii) of this Annex, as well as of those listed under items (i) to (vi) of Annex A to the Agreement.

(iv) Catalogues of films, recordings or other visual and auditory material of an educational, scientific or cultural character.

(v) Maps and charts of interest in scientific fields such as geology, zoology, botany, mineralogy, palaeontology, archaeology, ethnology, meteorology, climatology and geophysics, and also meteorological and geophysical diagrams.

(vi) Architectural, industrial or engineering plans and designs and reproductions thereof.

(vii) Bibliographical information material for distribution free of charge.

ANNEX B

WORKS OF ART AND COLLECTORS' PIECES OF AN EDUCATIONAL, SCIENTIFIC OR CULTURAL CHARACTER

(i) Paintings and drawings, whatever the nature of the materials on which they have been executed entirely by hand, including copies executed by hand, but excluding manufactured decorated wares.

(ii) Ceramics and mosaics on wood, being original works of art.

(iii) Collectors' pieces and objects of art consigned to galleries, museums and other institutions approved by the component authorities of the importing country for the purpose of duty-free entry of those types of materials, on condition they are not resold.

ANNEX C. 1

VISUAL AND AUDITORY MATERIALS

(i) Films, filmstrips, microforms and slides.

(ii) Sound recordings.

(iii) Patterns, models and wall charts of an educational, scientific or cultural character, except toy models.

(iv) Other visual and auditory materials, such as:

(a) video-tapes, kinescopes, video-discs, videograms and other forms of visual and sound recordings;

(b) microcards, microfiches and magnetic or other information storage media required in computerized information and documentation services;

(c) materials for programmed instruction, which may be presented in kit form, with the corresponding printed materials, including video-cassettes and audio-cassettes;

(d) transparencies, including those intended for direct projection or for viewing through optical devices;

(e) holograms for laser projection;

(f) Mock-ups or visualizations of abstract concepts such as molecular structures or Mathematical formulae;

(g) Multi-media kits;

(h) Materials for the promotion of tourism, including those produced by private concerns, designed to encourage the public to travel outside the country of importation.

The exemptions provided for in the present Annex C.1 shall not apply to:

(a) Unused microform stock and unused visual and auditory recording media and their specific packaging such as cassettes, cartridges, reels;

(b) Visual and auditory recordings with the exception of materials for the promotion of tourism covered by paragraph (iv)(h), produced by or for a private commercial enterprise, essentially for advertising purposes;

(c) Visual and auditory recordings in which the advertising matter is in excess of 25 per cent by time. In the case of the materials for the promotion of tourism covered by paragraph (iv)(h), this percentage applies only to private commercial publicity.

ANNEX C.2

VISUAL AND AUDITORY MATERIALS OF AN EDUCATIONAL, SCIENTIFIC OR CULTURAL CHARACTER

Visual and auditory materials of an educational, scientific or cultural character, when imported by organizations (including, at the discretion of the importing country, broadcasting and television organizations) or by any other public or private institution or association, approved by the competent authorities of the importing country for the purpose of duty-free admission of these types of materials or when produced by the United Nations or any of its Specialized Agencies and including the following:

(i) Films, filmstrips, microfilms and slides;

(ii) Newsreels (with or without sound track) depicting events of current news value at the time of importation, and imported in either negative form, exposed and developed, or positive form, printed and developed, it being understood that duty-free entry may be limited to two copies of each subject for copying purposes;

(iii) Archival film material (with or without sound track) intended for use in connection with newsreel films;

(iv) Recreational films particularly suited for children and youth;

(v) Sound recordings;

(vi) Video-tapes, kinescopes, video-discs, videograms and other forms of visual and sound recordings;

(vii) Microcards, microfiches and magnetic or other information storage media required in computerized information and documentation services;

(viii) Materials for programmed instruction, which may be presented in kit form, with the corresponding printed materials, including video-cassettes and audio-cassettes;

(ix) Transparencies, including those intended for direct projection or for viewing through optical devices;

(x) Holograms for laser projection;

(xi) Mock-ups or visualizations of abstract concepts such as molecular structures or mathematical formulae;

(xii) Multi-media kits.

ANNEX D

SCIENTIFIC INSTRUMENTS OR APPARATUS

(i) Scientific instruments or apparatus, provided:

(a) That they are consigned to public or private scientific or educational institutions approved by the competent authorities of the importing country for the purpose of duty-free entry of these types of articles, and used for non-commercial purposes under the control and responsibility of these institutions;

(b) That instruments or apparatus of equivalent scientific value are not being manufactured in the country of importation.

(ii) Spare parts, components or accessories specifically matching scientific instruments or apparatus, provided these spare parts, components or accessories are imported at the same time as such instruments and apparatus, or if imported subsequently, that they are identifiable as intended for instruments or apparatus previously admitted duty-free or entitled to duty-free entry.

(iii) Tools to be used for the maintenance, checking, gauging or repair of scientific instruments, provided these tools are imported at the same time as such instruments and apparatus or, if imported subsequently, that they are identifiable as intended for the specific instruments or apparatus previously admitted duty-free or entitled to duty-free entry, and further provided that tools of equivalent scientific value are not being manufactured in the country of importation.

ANNEX E

ARTICLES FOR THE BLIND AND OTHER HANDICAPPED PERSONS

(i) All articles specially designed for the educational, scientific or cultural advancement of the blind which are imported directly by institutions or organizations concerned with the education of, or assistance to, the blind, approved by the competent authorities of the importing country for the purpose of duty-free entry of these types of articles, including:

(a) Talking books (discs, cassettes or other sound reproductions) and large-print books;

(b) Phonographs and cassette players, specially designed or adapted for the blind and other handicapped persons and required to play the talking books;

(c) Equipment for the reading of normal print by the blind and partially sighted, such as electronic reading machines, television-enlargers and optical aids;

(d) Equipment for the mechanical or computerized production of braille and recorded material, such as stereo-typing machines, electronic braille, transfer and pressing machines; braille computer terminals and displays;

(e) Braille paper, magnetic tapes and cassettes for the production of braille and talking books;

(f) Aids for improving the mobility of the blind, such as electronic orientation and obstacle detection appliances and white canes;

(g) Technical aids for the education, rehabilitation, vocational training and employment of the blind, such as braille watches, braille typewriters, teaching and learning aids, games and other instruments specifically adapted for use of the blind.

(ii) All materials specially designed for the education, employment and social advancement of other physically or mentally handicapped persons, directly imported by institutions or organizations concerned with the education of, or assistance to, such persons, approved by the competent authorities of the importing country for the purpose of duty-free entry of these types of articles.

ANNEX F

SPORTS EQUIPMENT

Sports equipment intended exclusively for amateur sports associations or groups approved by the competent authorities of the importing country for the purpose of duty-free entry of these types of articles, provided that equivalent materials are not being manufactured in the importing country.

ANNEX G

MUSICAL INSTRUMENTS AND OTHER MUSICAL EQUIPMENT

Musical instruments and other musical equipment intended solely for cultural institutions or music schools approved by the competent authorities of the importing country for the purpose of duty-free entry of these types of articles, provided that equivalent instruments and other equipment are not being manufactured in the importing country.

ANNEX H

MATERIAL AND MACHINES USED FOR THE PRODUCTION OF BOOKS, PUBLICATIONS AND DOCUMENTS

(i) Material used for the production of books, publications and documents (paper pulp, recycled paper, newsprint and other types of paper used for printing, printing inks, glue, etc.).

(ii) Machines for the processing of paper pulp and paper and also printing and binding machines, provided that machines of equivalent technical quality are not being manufactured in the importing country.

[FR Doc.76-28208 Filed 9-24-76;8:45 am]

DEPARTMENT OF THE INTERIOR

Geological Survey

[Revised OCS Order No. 8]

PLATFORMS, STRUCTURES AND ASSOCIATED EQUIPMENT

Gulf of Mexico Area

Notice is hereby given that, pursuant to 30 CFR 250.11, the Acting Chief, Conservation Division, U.S. Geological Survey, has approved revisions to OCS Order No. 8, "Platforms, Structures, and Associated Equipment," for the Gulf of Mexico Area as set forth below. The revisions will be effective October 1, 1976.

The revision of some paragraphs of the Order was necessary for clarification and to assure conformance with the Memorandum of Undersatnding between the Department of Transportation and the Department of the Interior, which was published in the FEDERAL REGISTER on June 11, 1976 (41 FR 23746).

The revisions to the Order are as follows:

Subparagraph 4.A, the word "pipelines" was replaced with the word "flowlines."

Subparagraph 4.B, the words "except Section A-9, Pipelines" were added to the first reference to API RP 14C. Also in the last sentence, the words "options" were replaced with the words "alternate methods" and "the method."

Subparagraph 4.D(4)(a), the word "interface" was replaced with the word "coordinate."

The foregoing revisions supersede the revised OCS Order No. 8 which was published in the FEDERAL REGISTER on September 7, 1976 (41 FR 37616).

The revised paragraphs are set forth below with the modifications indicated in italics.

V. E. MCKELVEY,
Director.

[Revisions to OCS Order No. 8]

PLATFORMS, STRUCTURES, AND ASSOCIATED EQUIPMENT

Effective October 1, 1976.

4. *Design, Installation, and Operational Features of Production Facilities.*

A. All production facilities, including separators, treaters, compressors, headers, *and flowlines* shall be designed, installed, and maintained in a manner which will facilitate efficient, safe, and pollution-free operation.

B. As soon as practicable, but not later than six months after the effective date of this Order, new platform production facilities shall be protected with a basic and ancillary surface safety system designed, analyzed, installed, tested, and maintained in operating condition in accordance with the provisions of API RP 14C, "Analysis, Design, Installation, and Testing of Basic Surface Safety Systems on Offshore Production Platforms," June 1974, as amended November 1975, *except Section A9, Pipelines*, or subsequent revisions as approved by the Area Supervisor, and the additional requirements of this Order. For this application, the word "should" contained in API RP 14C shall be read "shall" except for those contained in explanatory statements, paragraphs 3.4(c), page 11 and 4.3(4)(a)-(f).

In the event that processing components are to be utilized other than those for which Safety Analysis Tables (SAT's) and Safety Analysis Checklists (SAC's) are included in API RP 14C, the analysis technique and documentation specified therein shall be utilized to determine the effects and requirements of such components upon the safety system.

Operators may utilize the *alternate methods* contained in API RP 14C during Safety System Design; however, *the method* selected and depicted on the schematic flow diagram and Safety Analysis Function Evaluation (SAFE) Chart are subject to approval by the appropriate Disrict Supervisor.

4.D(4) * * * The description shall include:

a. The operator's organizational element responsible for training and to *coordinate* with the Geological Survey in training program matters.

* * * * *

D. W. SOLANAS,
Oil and Gas Supervisor.

Approved:

RUSSELL G. WAYLAND,
Acting Chief, Conservation Division.

[FR Doc.76-38132 Filed 9-24-76;8:45 am]

Office of the Secretary

TECHNOLOGY TASK GROUP OF THE COMMITTEE ON ENHANCED RECOVERY TECHNIQUES FOR OIL AND GAS IN THE UNITED STATES

Meeting

Notice is hereby given for the following meeting:

The Technology Task Group of the National Petroleum Council's Committee on Enhanced Recovery Techniques for Oil and Gas in the United States will meet on Tuesday -and Wednesday, October 12–13, 1976, starting at 9:30 a.m. on both days, in the Board Room of Dell Webb's Newporter Inn, 1107 Jamboree Road, Newport Beach, California.

The agenda includes the following items for discussion:

1. Submissions on Task Group assignments.
2. Draft proposals for final report.
3. Any other matters pertinent to the overall assignment of the Technology Task Group.

The purpose of the National Petroleum Council is to provide to the Secretary of the Interior, upon request, advice, information and recommendations upon any matter relating to petroleum or the petroleum industry.

The meeting will be open to the public to the extent that space and facilities permit. Any member of the public may file a written statement with the Council either before or after the meeting. Interested persons who wish to speak at the meeting must apply to the Council and obtain approval in accordance with its established procedures.

Further information about the meeting may be obtained from Ben Tafoya, Office of the Assistant Secretary—Energy and Minerals, Department of the Interior, Washington, D.C. (telephone: 343-6226).

Dated: September 23, 1976.

ROBERT L. PRESLEY,
Staff Assistant — Emergency Preparedness Office of the Assistant Secretary—Energy and Minerals.

[FR Doc.76-28302 Filed 9-24-76;8:45 am]

FARM CREDIT ADMINISTRATION

[Order No. 794]

DEPUTY GOVERNOR, CREDIT AND OPERATIONS, AND ORDER OF PRECEDENCE OF CERTAIN OFFICERS TO ACT AS DEPUTY GOVERNOR, CREDIT AND OPERATIONS (REVOCATION OF FCA ORDER NO. 782)

Authority Delegation

SEPTEMBER 21, 1976.

1. The Deputy Governor, Credit and Operations, shall, subject to the jurisdiction and control of the Governor of the Farm Credit Administration, execute and perform all power, authority, and duties relative to supervision of the credit and operations functions of the institutions of the Farm Credit System and to all matters incidental thereto, and to administration of all provisions of law pertinent to such supervision.

2. In the event the Deputy Governor, Credit and Operations, Farm Credit Administration, is absent or is not able to perform the duties of his office for any other reason, the officer who is highest on the following list and who is available to act is hereby authorized to exercise and perform all functions, power, authority, and duties of the Deputy Governor, Credit and Operations, pertaining to the credit and operations functions:

(1) Director, Supervisory Division
(2) Director, Review Division
(3) Assistant Director, Eastern Region, Supervisory Division
(4) Assistant Director, Western Region, Supervisory Division.

3. This order shall be effective on September 21, 1976, and revokes Farm Credit Administration Order No. 782 dated January 30, 1975 (40 FR 5392).

W. M. HARDING,
*Governor,
Farm Credit Administration.*

[FR Doc.76-28169 Filed 9-24-76;8:45 am]

DEPARTMENT OF COMMERCE

Office of the Secretary

ECONOMIC ADVISORY BOARD

Meeting

Pursuant to the provisions of section 10(a)(2) of the Federal Advisory Committee Act, 5 U.S.C. App. I (Supp. V, 1975), notice is hereby given that the meeting of the Department of Commerce Economic Advisory Board will be held on Wednesday, November 17, 1976, from 9:30 a.m. to 3:30 p.m. in Room 4832, Main Commerce Building, 14th Street and Constitution Avenue, NW., Washington, D.C.

The Board was established by the Secretary of Commerce on October 5, 1967. The purpose of the Board is to advise the Secretary of Commerce on economic policy issues. The intended agenda for this meeting is as follows:

Discuss specific industry situations in terms of consumer spending, inventory, and capital spending.

Discuss monetary and fiscal policy and the near-term outlook for prices and interest rates.

Discuss the outlook for overall economic activity through 1977 in terms of output and employment.

A limited number of seats will be available to the public on a first-come, first-served basis. Public participation will be limited to requests for clarification of items under discussion. Additional statements or inquiries may be submitted to the chairman before or after the meeting. Copies of the minutes will be available on request 30 days after the meeting.

Additional information concerning this meeting may be obtained by contacting Mr. Dominic R. Quinn, Office of the Chief Economist for the Department of Commerce, Room 4854, Department of Commerce, Washington, D.C. 20230, (202) 377-3884.

JOHN W. KENDRICK,
Chief Economist for the Department of Commerce.

[FR Doc.76-28157 Filed 9-24-76;8:45 am]

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Alcohol, Drug Abuse, and Mental Health Administration

ADVISORY COMMITTEES

Renewals

Pursuant to the Federal Advisory Committee Act of October 5, 1972 (5 U.S.C. Appendix I), the Alcohol, Drug Abuse, and Mental Health Administration announces the renewal by the Secretary, Department of Health, Education, and Welfare, with the concurrence of the Office of Management and Budget Committee Management Secretariat of the following advisory committees:

Clinical Program—Projects Research Review Committee.
Social Problems Research Review Committee.
Social Sciences Research Review Committee.

Authority for these committees will expire September 30, 1978, unless the Secretary formally determines that continuance is in the public interest.

Dated: September 17, 1976.

JAMES D. ISBISTER,
Administrator, Alcohol, Drug Abuse, and Mental Health Administration.

[FR Doc.76-28156 Filed 9-24-76;8:45 am]

Office of Education

TEACHER CORPS PROJECTS

Extension of Closing Date for Receipt of Amendments

Notice is hereby given that pursuant to the authority contained in Part B–1 of the Education Professions Development Act (Title V of the Higher Education Professions Development Act (Title V of the Higher Education Act of 1965, as amended, 20 USC 1101–1107a), amendments are being accepted from Teacher Corps Tenth and Eleventh Cycle Youth Advocacy Programs for Fiscal Year 1976. The closing date of September 15, 1976 for receipt of amendments published in the FEDERAL REGISTER on August 26, 1976, is hereby extended to September 30, 1976.

Amendments must be received by the Application Control Center on or before September 30, 1976.

A. *Amendments sent by mail.* An amendment sent by mail should be addressed as follows: U.S. Office of Education, Grant and Procurement Management Division, Application Control Center, 400 Maryland Avenue, SW., Washington, D.C. 20202, Attention: 13.489. An amendment sent by mail will be considered to be received on time by the Application Control Center if:

(1) The amendment was sent by registered or certified mail not later than September 25, 1976 as evidenced by the U.S. Postal Service postmark on the wrapper or envelope, or on the original receipt from the U.S. Postal Service; or

(2) The amendment is received on or before the closing date by either the Department of Health, Education, and Welfare, or the U.S. Office of Education mail rooms in Washigton, D.C. In establishing the date of receipt, the Commissioner will rely on the time-date stamp of such mail rooms or other documentary evidence of receipt maintained by the Department of Health, Education, and Welfare, or the U.S. Office of Education.

B. *Hand delivered amendments.* An amendment to be hand delivered must be taken to the U.S. Office of Education Application Control Center, Room 5673, Regional Office Building Three, 7th and D Streets, S.W., Washington, D.C. 20202. Hand delivered amendments will be accepted daily between the hours of 8:00 a.m. and 4:00 p.m. Washington, D.C. time except Saturdays, Sundays, or Federal holidays. Amendments will not be accepted after 4:00 p.m. on the closing date.

C. *Program information and forms.* Information and application forms may be obtained from the Teacher Corps, Donohoe Building, 400 6th Street, SW., Washington, D.C. 20202.

D. *Applicable regulations.* The regulations applicable to this program include the Office of Education General Provisions Regulations (45 CFR Part 100a) and the funding criteria applicable to this program were published in the FEDERAL REGISTER on December 17, 1975.

(20 U.S.C. 1101–1107a.)

Dated: September 22, 1976.

JOHN D. PHILLIPS,
Acting U.S. Commissioner of Education.

(Catalog of Federal Domestic Assistance Number 13.489; Teacher Corps Operations and Training.)

[FR Doc.76-28274 Filed 9-24-76;8:45 am]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

FAA OFFICE AT MANILA, REPUBLIC OF PHILIPPINES

Closing

Notice is hereby given that on or about September 30, 1976, the FAA Office, Manila, Republic of Philippines, will be closed. Services to the general aviation public formerly provided by this office will be provided by the Southeast Asian International Field Office at Guam, M.I. This information will be reflected in the FAA Organization Statement the next time it is reissued.

R. O. ZIEGLER,
Director, Pacific-Asian Region.

[FR Doc.76-28146 Filed 9-24-76;8:45 am]

Office of the Secretary

PRIVACY ACT OF 1974

Annual Publication of Systems of Records

This preamble is to introduce the annual publication in the FEDERAL REGISTER of notices of systems of records of the Department of Transportation, as required by Public Law 93–579 of December 31, 1974, otherwise known as the Privacy Act of 1974. The Act requires such publication at least annually.

The Department of Transportation has submitted a magnetic tape to the Office of the Federal Register containing the text of the agency's systems of records. The full printed text of the material contained on the tape will appear in the Annual Compilation of Privacy Issuances that is being published by the Office of the Federal Register under § 3 of the Privacy Act.

The systems of records to be published in the compilation are all of the systems of the Department of Transportation which have been identified and previously published up to this date. The list includes corrections made as a result of comments, standardization of format and typographical errors. No systems have been added which were not previously published as a notice for public comment. The systems of records proposed at 41 FR 8819 and 41 FR 28051 are hereby adopted. Accordingly, this list supersedes all previously published listings of systems of records for the Department. (40 FR 38803, 44075, 53965; 41 FR 8819, 28051)

The Department of Transportation (DOT) consists of the following major agencies whose systems are identified in the listings which follow by DOT/xxx plus a number: (xxx represents the appropriate abbreviation shown below)

Office of the Secretary (OST)
Transportation Systems Center (TSC); attached to OST.
United States Coast Guard (CG)
Federal Aviation Administration (FAA)
Federal Highway Administration (FHWA)
Federal Railroad Administration (FRA)
National Highway Traffic Safety Administration (NHTSA)
Urban Mass Transportation Administration (UMTA)
Saint Lawrence Seaway Development Corporation (SLS)
Materials Transportation Bureau (MTB)

Effective date: This notice is effective on August 15, 1976.

WILLIAM T. COLEMAN, Jr.,
Secretary of Transportation.

Since the following listing supersedes all of the previous publications by the Department of Transportation listing systems of records in the FEDERAL REGISTER, the below listed general routine uses and the addresses of U.S. Coast Guard Districts and Headquarters are also updated and supersede all of those previously published.

PREFATORY STATEMENT OF GENERAL ROUTINE USES

The following routine uses apply to, and are incorporated by reference into, each system of records.

1. In the event that a system of records maintained by the Department to carry out its functions indicates a violation or potential violation of law, whether civil, criminal or regulatory in nature, and whether arising by general statute or particular program pursuant thereto, the relevant records in the system of records may be referred, as a routine use, to the appropriate agency, whether federal, state, local or foreign, charged with the responsibility of investigation or prosecuting such violation or charged with enforcing or implementing the statute, or rule, regulation or order issued pursuant thereto.

2. A record from this system of records may be disclosed, as a routine use, to a federal, state or local agency maintaining civil, criminal or other relevant enforcement information or other pertinent information, such as current licenses if necessary to obtain information relevant to a Department decision concerning the hiring or retention of an employee, the issuance of a security clearance, the letting of a contract, or

the issuance of a license, grant or other benefit.

3. A record from this system of records may be disclosed, as a routine use, to a federal agency, in response to its request, in connection with the hiring or retention of an employee, the issuance of a security clearance, the reporting of an investigation of an employee, the letting of a contract, or the issuance of a license, grant, or other benefit by the requesting agency, to the extent that the information is relevant and necessary to the requesting agency's decision on the matter.

4. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

5. The information contained in this system of records will be disclosed to the Office of Management and Budget in connection with the review of private relief legislation as set forth in OMB Circular No. A-19 at any stage of the legislative coordination and clearance process as set forth in that Circular.

6. Disclosure may be made to a congressional office from the record of an individual in response to an inquiry from the congressional office made at the request of that individual.

APPENDIX I

LOCATION OF CG DISTRICTS AND HEADQUARTERS UNITS

1. Commander, 1st Coast Guard District, 150 Causeway Street, Boston, MA 02114.
2. Commander, 2nd Coast Guard District, Federal Building, 1520 Market Street, St. Louis, MO 63103.
3. Commander, 3rd Coast Guard District, Governors Island, New York, NY 10004.
4. Commander, 5th Coast Guard District, Federal Building, 431 Crawford Street, Portsmouth, VA 23705.
5. Commander, 7th Coast Guard District, 51 S.W. 1st Ave., Miami, FL 33130.
6. Commander, 8th Coast Guard District, Customhouse, New Orleans, LA 70130.
7. Commander, 9th Coast Guard District, 1240 East 9th St., Cleveland, OH 44199.
8. Commander, 11th Coast Guard District, Heartwell Bldg., 19 Pine Ave., Long Beach, CA 90802.
9. Commander, 12th Coast Guard District, 630 Sansome St., San Francisco, CA 94126.
10. Commander, 13th Coast Guard District, Federal Bldg., 915 Second Ave., Seattle, WA 98174.
11. Commander, 14th Coast Guard District, P.O. Box 48, FPO San Francisco, CA 96610.
12. Commander, 17th Coast Guard District, FPO Seattle, CA 98771.
13. Commander, U.S. Coast Guard Academy, New London, CT 06320.
14. Commanding Officer, U.S. Coast Guard Yard, Curtis Bay, Baltimore, MD 21225.
15. Commanding Officer, U.S. Coast Guard, Training Center, Governors Island, New York, NY 10004.
16. Commanding Officer, U.S. Coast Guard Training Center, Cape May, NJ 08204.
17. Commanding Officer, U.S. Coast Guard Training Center, Government Island, Alameda, CA 94501.
18. Commanding Officer, U.S. Coast Guard, Supply Center, 830 3rd Ave., Brooklyn, NY 11232.
19. Commanding Officer, U.S. Coast Guard Institute, P.O. Substation 18, Oklahoma City OK 73169.
20. Commanding Officer, U.S. Coast Guard, Aircraft Repair and Supply Center, Elizabeth City, NC 27909.
21. Commanding Officer, U.S. Coast Guard Aviation Training Center, Mobile, AL 36608.
22. Commanding Officer, U.S. Coast Guard Radio Station (NHM), 7223 Telegraph Rd., Alexandria, VA 22310.
23. Commanding Officer, U.S. Coast Guard Reserve Training Center, Yorktown, VA 23490.
24. Officer in Charge Record Depot, U.S. Coast Guard Air Station, Elizabeth City, NC 27909.
25. Commander Coast Guard Activities, Europe, London, Box 50, FPO New York, NY 09510.
26. Commanding Officer, U.S. Coast Guard Training Center, Petaluma, CA 94952.
27. Commander, U.S. Coast Guard Air Base, Elizabeth City, NC 27909.
28. Commanding Officer, U.S. Coast Guard, Electronics Engineering Center, Wildwood, NJ 08260.
29. Commanding Officer, Research and Development Center, Avery Point, Groton, CT 06340.
30. Commanding Officer, U.S. Coast Guard Oceanographic Unit, Building 159E, Navy Yard Annex, Washington, D.C., 20590.

The identification of the operating unit or units within the Department to which the particular system of records pertains appears as "DOT/" followed by a designating abbreviation. The abbreviations and their meanings are as follows:

OST—Office of the Secretary of Transportation.
CG—United States Coast Guard.
FAA—Federal Aviation Administration.
FHWA—Federal Highway Administration.
FRA—Federal Railroad Administration.
NHTSA—National Highway Traffic and Safety Administration.
SLS—Saint Lawrence Seaway Development Corporation.
TSC—Transportation Systems Center.
UMTA—Urban Mass Transportation Administration.

[FR Doc.76-23831 Filed 8-30-76;8:45 am]

CIVIL AERONAUTICS BOARD

[Docket Nos. 27363; 25659; Order 76-9-109]

ALLEGHENY AIRLINES, INC.

Order Fixing Final Mail Rates

Adopted by the Civil Aeronautics Board at its office in Washington, D.C. on the 21st day of September, 1976.

By Order 73-3-15, March 6, 1975, the Board directed Allegheny Airlines, Inc. (Allegheny) to show cause why its petition for a subsidy mail rate (filed January 3, 1975) should not be denied.[1] Allegheny filed a timely Notice of Objection and, after being granted a delay, filed an Answer on May 7, 1975.

After receiving Allegheny's Answer, the staff requested more detailed information. This was received in August 1975. Thereupon Allegheny, by letter, requested that the staff delay its recommendation to the Board to allow the carrier to file supplemental data. This request was granted; the supplemental data were received December 29, 1975. Allegheny then requested a meeting with the staff to express its views. Such a meeting took place January 15, 1976. Finally, on March 22, 1976, Allegheny placed in the docket a letter further amplifying its arguments.

In its filings, Allegheny argues in voluminous detail that it should now be returned to subsidy status. However, these arguments do not, in the Board's opinion, raise material issues of fact bearing directly on the conclusions and findings in Order 75-3-15. Therefore, this order reaffirms and makes final that order.

Allegheny's subsidy plea was tentatively denied for two reasons:

First, the carrier in its petition filed on January 3, 1975, forecast a reasonably good rate of return for 1975 (7.8 percent) considering the fact that the country was experiencing the worst business recession since World War II. It was the Board's belief that the profits projected by Allegheny in the face of this business decline clearly showed that subsidy was not necessary to insure the continuation of the services Allegheny is certificated to perform. Furthermore, it was reasonable to expect that all certificated route air carriers would experience lower returns during the recession.[2]

Second, we restated our long-held position that subsidy was not intended to guarantee a particular profit element each and every year and that the Board has consistently refused to take a keyhole view of a carrier's financial results in ratemaking determinations. The well-established policy is to view earnings over an extended period of time to determine whether they are reasonable.

More than a year has passed since the tentative denial of Allegheny's subsidy request. In that time, Allegheny has filed three lengthy documents which purport to show that the findings and conclusions of Show-Cause Order 75-3-15 were in error. The facts we have before us, however, lead us to conclude that our tentative findings and conclusions were correct. No issue of fact, nor argument regarding policy, presented by Allegheny in its various filings has persuaded us that a continuation of this matter to the hearing stage is necessary.[3]

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[1] On January 30, 1975, Trans World Airlines, Inc. (TWA) filed a petition to intervene in Docket 27363, and on February 4, 1975, Allegheny filed an answer to the TWA petition.

[2] The results for 1975 confirm this expectation. While Allegheny's profits in 1975 were below the levels reached in recent years, Allegheny nevertheless was the eighth most profitable carrier (before subsidy) in the industry. This was the same ranking Allegheny held in 1974 when it experienced a corporate return on investment of 8.7 percent. (See Attachment A.) In 1972 and 1973, Allegheny was the seventh most profitable carrier in the industry. (See further discussion below.)

In its May 7 Answer Allegheny, in effect, presented a new set of allegations. While the carrier had originally requested $4 million, a new forecast for 1975 (including the actual financial results from the first quarter of 1975) alleged that the carrier's subsidy need would be $9.9 million. The carrier also attacked cases cited in support of the "no keyhole view" policy set out in Order 75-3-15 and claimed there was no factual basis for a determination that long-range trends support continuation of Allegheny's subsidy-free status. In addition, Allegheny launched an attack on the Board's decision to remove the carrier from subsidy in mid-1974.[4]

Taken as a whole, Allegheny's May 7 filing can be characterized as a completely new subsidy petition and not an answer contesting issues of fact. Indeed, the only truly factual issue raised by Allegheny on May 7 related to which prospects for 1975 might ultimately prove correct. While at that time it may have been reasonable for Allegheny to project a drastic traffic decline for 1975 based on the traffic results from the first four months of the year, subsequent experience has shown that this decline did not materialize.[5] Because we are compelled to view actual results when they are available, we can give little weight to the traffic and financial projections which Allegheny submitted in its May 7, 1975 Answer.[6]

In view of the drastic drop in Allegheny's profitability during the first quarter of 1975, a thorough analysis of the carrier's projected need was undertaken and additional information was requested from Allegheny. The information was eventually supplied by the carrier on August 22, 1975. Just over a month later, on October 3, 1975, Allegheny informally requested that action on its May 7 filing be deferred until the carrier could again revise its forecast of 1975 results.

On December 29, 1975, Allegheny filed its second document, entitled "Supplement to Answer of Allegheny Airlines, Inc." In this filing, Allegheny set out a new forecast for 1975. Based on the actual results for the first ten months and a forecast for the last two months, Allegheny claimed its subsidy requirement had risen to $10.6 milion. While acknowledging traffic results during the summer and fall had been much better than forecast in its May 7 Answer, Allegheny claimed that declining yields had more than canceled out the effects of this added traffic. Allegheny also took the opportunity to renew its arguments that the Board has a statutory obligation to provide Allegheny with subsidy support.

Finally, on March 22, 1976, Allegheny had entered into the docket a lengthy letter addressed to the Director of the Bureau of Economics. This letter presented still further arguments and numerous tables purporting to demonstrate that, in light of the carrier's 1975 results and the long-term trends in its earnings, the Board is required to return Allegheny to subsidy status.

As stated earlier, we have found no factual basis for revising our tentative findings in Show-Cause Order 75-3-15. The only material issue of fact which was, perhaps, in doubt was whether Allegheny's sharp downturn in profits in early 1975 was a short-term or a long-term phenomenon. At this point, we have the benefit of actual 1975 operating and financial results, as well as results from the first five months of 1976. It is no longer necessary to speculate as to Allegheny's ability to deal with the effects of the recent recession. Except for the first two months of 1975, Allegheny, to its credit, showed admirable flexibility in dealing with the traffic declines which continued throughout most of 1975. Indeed, except for the first quarter, Allegheny was able to achieve sizable profits during 1975. The exceptionally poor results experienced in the first quarter of 1975 appear to result in large measures from the failure of the carrier to adjust quickly to the recessionary business environment. Allegheny added substantial capacity in January and February of 1975 and as a result experienced passenger load factors of 43 percent and 44 percent, respectively.[7]

This combination of increased capacity and a drop in traffic resulted in a $10.3 million loss in the first quarter of 1975. This severely distorted the calendar-year 1975 results in which Allegheny reported operating profits of only $3.2 million. Of course, Allegheny's forecasts of May 7, 1975, and December 29, 1975, include the atypical first-quarter results. The Board believes, however, that an appraisal of Allegheny's long-term need for subsidy support should logically place little emphasis on this distorted period. During the last nine months of 1975, in the face of declining traffic through October, Allegheny posted sizable profits. Allegheny's traffic began to grow again in November 1975, and rates of growth accelerated through May 1976. Combined with capacity restraint, this growth in traffic has produced marked improvements in system load factors when compared to the results of a year ago.

For the year ended May 31, 1976, Allegheny reported preliminary operating profits of $14.2 million. This translates into a rate of return on investment, before any adjustment, of eight percent. With subsidy ratemaking adjustments, brought forward from the year ended March 31, 1976, where necessary, the rate of return on investment would exceed fifteen percent. (See Attachment B.)[8] These rates of return are a marked improvement over the results for the year ended March 31, 1976, where the adjusted rate of return was 7.1 percent, and are well above those cited in Show-Cause Order 75-3-15 as justifying that Allegheny should remain subsidy-free. These rates of return further illustrate the marked improvement in Allegheny's financial results. The $14.2 million operating profit represents an improvement of $14.4 million from the annual period ended May 31, 1975. As we indicated in Show-Cause Order 75-3-15, a carrier might be considered fortunate to earn rates of return in this range during a period of recession.

Allegheny's prospects also appear good. So far in 1976, the carrier has experienced substantial traffic growth.[9] The carrier, being situated in the most industrialized region of the nation, should be in a particularly good position to share in the general economic recovery currently underway. Strong traffic growth coupled with cumulative fare increases of eight percent granted by the Board in recent months should enable Allegheny to substantially improve its profit position during 1976.

Considering Allegheny's experience during the year ended May 31, 1976, its prospects for the future, and the carrier's profitability in recent years, we believe the application of the no-keyhole doctrine is appropriate and see no reason to alter our tentative findings in Order 75-3-15.[10] We are satisfied that the facts in this case fully justify continuation of a subsidy-free mail rate for Allegheny. As stated earlier, Allegheny attacked the Board's original decision taking the carrier off subsidy. Allegheny claimed that the Board used the extraordinary earnings during an 18-month period as the justification for taking the carrier off subsidy. Allegheny argued that its earnings should be analyzed over the period from 1971 through 1975, and such an analysis would indicate that the carrier deserved subsidy support. Based on our analysis of trends in Allegheny's traffic and financial results, the period from 1972 through 1974 is the most representative of Allegheny's recent system operations.

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[3] 14 CFR Part 302, section 306 provides in part: ". . . if an answer timely filed raises no material issue of fact, the Board may thereupon, upon the basis of all of the documents filed in the proceeding, enter a final order fixing the fair and reasonable rate or rates as specified in the order to show cause."

[4] Show-Cause Order 74-6-42, June 7, 1974, proposed a subsidy-free mail rate for the period beginning July 1, 1974. Allegheny did not file an objection to this order and it was finalized by Order 74-7-61.

[5] Allegheny projected a decline of 8.5 percent for 1975. The actual decline was 3.9 percent.

[6] *West Ohio Gas Co.* v. *Public Utility Commission* (No. 2), 294 U.S. 79, 82 (1935).

[7] During January and February of 1975, in the face of a worsening recession and after two consecutive months of traffic declines, Allegheny operated 20 and 17 percent more available seat-miles than one year earlier.

[8] Since Allegheny was first removed from subsidy status, the carrier has failed to file the necessary schedules in order to protect its capital gains. This is reflected in the capital gains adjustment to nonoperating income. Assuming that Allegheny had protected these capital gains, the adjusted operating profit for the year ended May 31, 1976, would be $20.2 million, which would produce a rate of return of 11.3 percent.

[9] For the first five months of 1976, Allegheny's passenger traffic grew by 10.2 percent while capacity increased by 2.7 percent resulting in a 3.5 percentage-point increase in load factor.

In view of the substantive changes in Allegheny's system occasioned by its merger with Mohawk Airlines on April 12, 1972, it is unrealistic to consider the period prior to 1972 "reasonably normal" for determining the long-range profitability of Allegheny's current system. Furthermore, the results for 1971 were influenced by the lingering effects of the recession of 1969/70, as well as a lengthy strike at Mohawk during the first four months of 1971. Analysis of traffic trends shows that, on a seasonally adjusted basis, normal traffic growth did not materialize for Allegheny until the end of 1971.

Results for 1975 were also extremely abnormal, a fact acknowledged by Allegheny. Seasonally adjusted traffic was down for the entire year from November 1974 through October 1975, resulting in unusually low profits for calendar year 1975. The severity of the effects of the recession during this period is indicated by the fact that traffic declined relative to the previous year for the first time in a decade.

Although it is nearly impossible to select a "normal" year for any airline, we find that the period from 1972 to 1974 is more representative of Allegheny's system operations than any other period in its recent history. During that period Allegheny's average return on investment, after subsidy ratemaking adjustments, was 11.3 percent (before subsidy); without ratemaking adjustments its average return was over 9.3 percent. We thus conclude that operating results during this 36-month period of relative normality are indicative that Allegheny has the demonstrated capability for self-sufficiency.

We also take note of Allegheny's argument that it should not be denied subsidy unless it has demonstrated the ability to realize a reasonable return on equity capital. Allegheny states that such a return should be the 20 percent rate of return on equity found reasonable for local service carriers in Phase 8 of the DPFI.[11] In support of this argument, Allegheny provided a table showing that the combined Allegheny/Mohawk operations from 1971 through 1975 had a negative return on equity of 2 percent.

Little weight can be placed on this aspect of Allegheny's case. First of all, we consider Allegheny's method of computing its return on equity inappropriate. Allegheny used actual net income for each period, which includes nonoperating expenses, and unadjusted year-end stockholder equity. Since this case, in fact, involves a subsidy determination, we consider it appropriate to apply standard subsidy ratemaking adjustments in our computations. Consistent with sound ratemaking practice and the present class rate methodology, we are of the opinion that the stockholder equity should be adjusted and computed on a five-quarter weighted average basis to more accurately reflect the financial position of the carrier throughout the entire year.[12] We further believe that the inclusion of nonoperating expenses, other than interest expense, is inappropriate since, by definition, these expenses do not pertain to the actual operation of Allegheny's air transportation services. We also believe that a more reasonable approach is to exclude Mohawk's operations entirely,[13] and look only at the 1972–1974 period, a time frame which we consider the only recent period of relatively normal operations for Allegheny. Using this approach and applying only Allegheny's "normal" ratemaking adjustments to revenues and expenses,[14] Allegheny's return on equity averaged 13.9 percent during the three-year period.

A second—and perhaps more important—reason to give little credence to this argument is that subsidy is not intended as a vehicle to guarantee returns to stockholders, but rather is designed to insure continuation and development of air service. For the reasons set forth below, we do not believe that Allegheny requires a sustained return on equity approaching 20 percent to insure that the goals of the Act are met.

We are convinced that our determination in this case is mandated by our statutory responsibilities and is consistent with the numerous subsidy determinations made over the years. The Board has for over two decades held that the developmental goals of the Act require the curtailment of subsidy support when a carrier has grown to the point where the opportunity for self-sufficient operation exists. Allegheny is the first local service carrier to have reached this threshold. But, unfortunately, Allegheny achieved the status of self-sufficiency just prior to the worst economic recession in over twenty years. Consequently, Allegheny, along with the other self-sufficient carriers, suffered a short-term decline in profitability. There is no reason to believe, however, that the fundamental profitability of Allegheny's system has been altered. The developmental goals of the Act, being long-range in nature, preclude a short-term view of carrier results in determining the need for subsidy assistance. The unfortunate drop in Allegheny's earnings during the depth of the recent recession simply does not provide a basis for concluding that a fundamental change in Allegheny's system profitability has taken place.

The long history of Board subsidy rulings is completely at odds with the general proposition which Allegheny has advanced in its various filings, that only if Allegheny's system has demonstrated a sustained ability to earn the return specified by Phase 8 of the DPFI can the Board deny the carrier's request. An application of Allegheny's position over the years would have meant that few, if any, certificated carriers would ever have been removed from subsidy. As we recently stated with regard to a TWA petition for subsidy, "there is nothing in the language of section 406, or in the legislative history of the present Act, to reveal any Congressional intent to guarantee a uniform profit every year or even to guarantee the same rate of return to each carrier."[15]

First of all, it must be stressed that the 12.35 percent rate-of-return figure mentioned in Phase 8 of the DPFI, and relied upon by Allegheny in its various arguments, is an industry average around which variation in individual-carrier performances can and, in fact, must occur. The history of self-sufficient carriers indicates that carriers can survive—indeed can prosper and attract needed capital—at rates of return well below this average. Furthermore, the Board has consistently refused to apply a particular rate-of-return standard in determining when a carrier no longer requires subsidy support. In an early *Pan American Airways, Inc., Mail Rates* case, the Board wrote: "There is no fixed standard by which self-sufficiency can be precisely measured on a mathematical basis at a given time. Indeed, it is doubtful whether any such standard could be devised since uninterrupted profitability of operations is the exception rather than the rule in competitive business enterprise. Moreover, self-suffi-

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[10] Allegheny earned an adjusted return on investment of 10.0 percent, 10.9 percent, and 12.8 percent for the three years preceding 1975. See Allegheny's March 19, 1976, letter to Dirctor, Bureau of Economics, Attachment 4, page 2 of 3.

[11] In finding the reasonable return on equity to be 20 percent in Phase 8 of the DPFI, Order 71-4-58, the Board noted: "* * * our determination herein is solely for purposes of passenger fares, and is without prejudice to employment of different return elements for subsidy purposes."

[12] This method is consistent with that used to determine the equity portion of the local service carriers' investment base under the class rate system, to which is applied the 20 percent return figure on equity to compute each carrier's allowable return.

[13] Use of the combined operations of Mohawk and Allegheny prior to their merger is analytically unsound because Mohawk's operations were affected by a strike in 1971 and the merger in 1972, and because artificially combining premerger operations does not take into account integration of the systems which can logically be expected to lead to greater efficiency.

[14] In its March 19 letter, Allegheny objected to the use of subsidy ratemaking adjustments in computing its adjusted rate of return. Normal ratemaking adjustments are those which are considered by Allegheny to be appropriate in such a computation. These adjustments include a portion of nonoperating income, developmental and preoperating amortization, excess aircraft depreciation, and losses in rents not recognized for subsidy purposes.

[15] See Order 76-3-102, March 16, 1976, and cases cited in note 10 of that order.

ciency is not a matter of realizing a specific rate of return but rather represents the existence of an opportunity for management to attain profitable operations, with adequate service to the public, without dependence upon the Government for financial support."[16] Finally, in phase 8 of the DPFI, we cautioned that the return standards adopted there were to be used for only limited purposes. The Board stated in Phase 8: "The rates of return specified herein will be used as standards for measuring the reasonableness of the general domestic passenger-fare level. They are not in any sense to be regarded as guarantees that any individual carrier will earn the standard return in any given year or period of years, or that the industry as a whole will achieve the specified rate in particular periods." (Emphasis added.)[17]

The classification "local service carrier" does not carry with it a guarantee of indefinite subsidy support. The Board's route-strengthening program of the 1960's set into motion a process of accelerated growth for the local service carriers. This program, along with two mergers, enabled Allegheny to assume the role of this country's sixth largest passenger carrier in terms of the number of enplanements. At this time, Allegheny, while still a local service carrier for reporting and commercial ratemaking purposes, is clearly in a class by itself—a carrier in the transitional stage between a local service carrier and a regional trunk carrier.[18]

For the four calendar years from 1972 through 1975, Allegheny ranked either seventh or eighth in the industry in terms of corporate rate of return excluding subsidy. (See Attachment A.)[19] Allegheny's rates of return for 1972 and 1973 were greater than the averages for the domestic trunks, and the 1974 results were virtually the same. Allegheny's 1975 return was 1.68 percentage points below the domestic trunk average, but it retained its eighth-place ranking among the entire industry. Such results as these indicate that Allengheny's performance has been comparable to that of subsidy-free airlines. Furthermore, the subsidy that Allegheny received in the years immediately preceding its removal from subsidy constituted only about one percent of the carrier's operating revenues. Therefore, in removing Allegheny from subsidy, we concluded that the carrier possessed the operating flexibility to overcome the last small obstacle to subsidy-free status. We see no reason to conclude now that the carrier has lost the necessary flexibility to continue without subsidy aid.

In view of the foregoing, we find that the temporary interruption of Allegheny's profitability, due mainly to the recent recession, has not fundamentally altered the self-sufficient nature of its system operations. As a mature carrier, under honest, economical, and efficient management, Allegheny should be able—without the aid of subsidy—to maintain and continue the development of the air transport services it is certificated to perform. In view of this finding, TWA's petition to intervene should be dismissed as moot.

Accordingly, pursuant to the Federal Aviation Act of 1958, and particularly sections 204(a) and 406 thereof, and the regulations promulgated in 14 CFR Part 302,[20]

It is ordered, That: 1. On and after January 3, 1975, the fair and reasonable rates of compensation to be paid to Allegheny Airlines, Inc., for the transportation of mail over its entire system as constituted on or subsequent to January 3, 1975, the facilities used and useful therefor, and the services connected therewith, are the service mail rates payable to Allegheny Airlines, Inc., by the Postmaster General in effect on January 3, 1975, or thereafter established by the Board;

2. The petition of TWA to intervene in Docket 27363 be and it hereby is dismissed as moot; and

3. This order shall be served upon Allegheny Airlines, Inc., and the Postmaster General.

This order will be published in the FEDERAL REGISTER.

By the Civil Aeronautics Board.

PHYLLIS T. KAYLOR,
Secretary.

[FR Doc.76-28209 Filed 9-24-76;8:45 am]

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[16] *Pan American Airways, Inc., Mail Rates,* 8 C.A.B. 876, 908 (1947).

[17] Order 71-4-58, April 9, 1971, page 3.

[18] Allegheny was allowed to retain its classification as a local service carrier for only one reason—to allow it to exercise the fare flexibility of a local service carrier during this transition.

[19] Attachment A and B filed as part of the original document.

[20] In reaching this conclusion, the Board has been mindful of the statements regarding the subsidy program made in the report of the House Appropriations Committee on the 1977 Appropriations Bill for the Civil Aeronautics Board. However, we are constrained to reject Allegheny's petition in the circumstances and for the reasons set forth in this order.

[Docket No. 29295, 29392, 29397; Order 76-9-110]

AMERICAN AIRLINES, INC. SOUTHERN AIR TRANSPORT, INC.

Order Regarding United States-Latin America All Cargo Service Investigation

Adopted by the Civil Aeronautics Board at its office in Washington, D.C. on the 21st day of September, 1976.

By Order 76-5-92 adopted May 21, 1976, the Board instituted the United States-Latin America All-Cargo Service Investigation to consider whether the public convenience and necessity require the certification of an air carrier or air carriers to engage in foreign air transportation of property and mail between the coterminal points Miami, Fla., Houston, Tex., and San Juan, P. R., on the one hand, and Mexico City, Mexico; Managua, Nicaragua; Port-au-Prince, Haiti; Santo Domingo, Dominican Republic; Bogota, Colombia; Caracas, Venezuela; Guayaquil and Quito, Ecuador; Rio de Janeiro and Sao Paulo, Brazil; and Buenos Aires, Argentina, on the other hand.

The Board consolidated into the proceeding the application of Airlift International, Inc., in Docket 26324 for amendment of its certificate, insofar as such application conformed to the scope of the proceeding, and dismissed without prejudice Airlift's application for other authority.[1] The order provided that petitions for reconsideration and motions to consolidate any other applications should be filed with the Board by June 14, 1976, and that answers thereto should be filed by June 24, 1976. Requests have been filed by the persons indicated to expand the scope of the case to include the following additional points:

Barbados	American Airlines.
Curacao, N.W.L.	Do.
St. Johns, Antigua	The Tourist and Trade Department of Antigua.
Kingston, Jamaica	Airlift International.[1]
Maracaibo, Venezuela	Airlift International.
Cali and Barranquilla, Colombia	Do.
Manaus and Porto Alegre, Brazil	Do.
La Paz and Santa Cruz, Bolivia	Do.
Lima and Iquitos, Peru	Do.
Borinquen Airport, Puerto Rico	Commonwealth of Puerto Rico.[2]

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[1] Airlift's application in Docket 26324 requested all-cargo authority beteen ten U.S. coterminals (including Miami, Houston and San Juan), on the one hand, and a point or points in Argentina, Bolivia, Brazil, Colombia, Costa Rica, Dominican Republic, Ecuador, Haiti, Mexico, Nicaragua, Panama, Peru, and Venezuela, on the other.

[1] Airlift suggests in its petition for reconsideration that Kingston, Jamaica, might be added and in its answer requests the Board to add the point on its own motion.

[2] The petition of the Commonwealth of Puerto Rico to expand the case to include Borinquen Airport in addition to San Juan was filed on August 5, 1976, and was accompanied by a motion for leave to file an untimely document. Good cause for the late filing having been shown, Puerto Rico's petition will be received.

American Airlines, Inc., has filed motions to consolidate into the proceeding its application in Docket 29392 for property and mail authority between the terminal point San Juan, Puerto Rico, the intermediate points, Santo Domingo, Dominican Republic, and Port-au-Prince, Haiti, and (i) beyond Port-au-Prince, Haiti, the terminal point Barbados, and (ii) beyond Port-au-Prince, Haiti, the intermediate point Curacao, N.W.I., and the terminal point Caracas, Venezuela. As indicated, American requests that the issue of service to Barbados and Curacao, N.W.I., be included in the proceeding. Southern Air Transport, Inc., requests consolidation of its application in Docket 29397 for property and mail authority between the same points set down for hearing in Order 76-5-92.

The Tourist and Trade Department of Antigua requests inclusion of St. Johns, Antigua, contending that the Caribbean countries in the proceeding should not be limited to Haiti and the Dominican Republic. It contends that the cargo needs of the entire Caribbean area are ripe for consideration, that Antigua is the largest of the Leeward Islands group, and that it is a logical gateway to the mid-Caribbean region and a natural intermediate point on cargo routes to South America. It states that Antigua's airport has facilities for substantial volumes of freight, but that it receives no U.S.-flag all-cargo service and no combination service with wide-bodied aircraft. The petitioner states that the country's surface cargo traffic to and from the United States more than doubled between 1969 and 1974. It contends that the 20 million pound standard in Order 76-5-92 unfairly excludes Antigua. While the Windward and Leeward Islands exchanged only 4.7 million pounds of freight with the United States in 1974, much of the present surface cargo is susceptible to diversion by air. Besides, it argues, various Asian countries exchanged less than 4.7 million pounds of freight with the United States when Flying Tiger was certificated in the Pacific and certain European countries exchanged less than 20 million pounds when Seaboard World Airlines was certificated in the Atlantic.

Airlift petitions for reconsideration of Order 76-5-92 to the extent the Board failed to include the above nine South American points in the proceeding. The carrier argues that since the Board has decided to consider certification to foreign points rather than to entire countries, it is important that all potentially viable markets be in the case whether or not they meet the 20 million pound test. Airlift contends that it is impossible to tell at this time what the traffic flows and shipper needs will be at the conclusion of the proceeding, that its experience indicates a "quantum of traffic" at the proposed additional cities even though they may currently be under 20 million pounds, that the Board should have the flexibility to meet all of the cargo needs shown to exist, and that adding the nine points will not unduly expand the scope of the proceeding. In an answer Airlift supported the inclusion of St. Johns, Antigua, Barbados, and Curacao, N.W.I.

The Commonwealth of Puerto Rico requests modification of the scope of the case so that any new all-cargo rights awarded may include authority to provide service through Borinquen Airport in Puerto Rico as well as San Juan International Airport, Borinquen Airport is the former Ramey Air Force Base near the northwest corner of Puerto Rico. It has recently been decommissioned as a Strategic Air Command facility and made available to the Commonwealth of Puerto Rico for civil aviation use. It is contended that the requirements of the Puerto Rican shipping public are not limited to San Juan and that this case should take account of the Commonwealth's comprehensive program for the industrial development of the area served by Borinquen Airport, which includes use of the airport to handle passenger and cargo traffic between Puerto Rico and other areas.

Braniff has filed an answer opposing all proposals to expand the scope of the case on grounds that the Board's order includes all the points that have shown potential for economic operation and properly excluded all others. Including additional points, Braniff contends, would bring in other applicants and invite another round of pleadings and additional delay. Braniff also states that the present scope of the case has the advantage of making it unnecessary to consider any alteration or amendment of the existing certificates of Braniff or Pan American.

Eastern has answered in opposition to any expansion arguing that this is already a large proceeding covering an extensive area of international operations, that breaching the standard of 20 million pounds of cargo per year used by the Board in Order 76-5-92 will lead to other exceptions and make the case too large and unwieldy to handle, and that the Board should continue to focus the proceedings upon those city pairs whose historic traffic flows show the greatest need for review.

Pan American has filed an answer opposing any enlargement of the scope of the case contending that the cargo service which it provides at the points authorized to it in the Latin American area at issue herein are fully adequate to meet the needs of the public and that no new authority should be granted in the markets served by Pan American. In particular the carrier opposed including Maracaibo, Venezuela, on grounds that the point not only failed to meet the 20 million pound standard of Order 76-5-92 but also currently receives U.S.-flag all-cargo service.

The Bureau of Operating Rights recommends expansion of the scope of the case to include Barbados and Curacao and "does not oppose" the inclusion of St. Johns, Antigua or Kingston, Jamaica. The Bureau supports Puerto Rico's request to include Borinquen Airport, but recommends that the expansion include the issue of authority to serve any point in Puerto Rico. The Bureau opposes addition of the nine additional South American points requested by Airlift.

Upon further consideration we have decided to change the scope of this investigation from the consideration of service between U.S. points and named foreign cities to the consideration of service to foreign points on a country-by-country basis. The U.S. coterminals in issue will be expanded to include any point or points in Puerto Rico instead of San Juan only. We will also expand the issues to include the question of whether cargo authority should be authorized between U.S. coterminals and Jamaica, and between Puerto Rico and Barbados and Curacao, N.W.I. The petition of the Tourist and Trade Department of Antigua to add St. Johns, Antigua, and the request by Airlift International to the extent that it requests the inclusion of points in Bolivia and Peru will be denied. We will also consolidate into the proceeding the applications of American Airlines in Docket 29392 and of Southern Air Transport in Docket 29397 to the extent consistent with the scope of the proceeding.

As indicated the Board has decided to reverse its initial determination in Order 76-5-92 to scope this investigation on a city-pair basis and to consider the question of all-cargo service on a foreign country-by-country basis.[2] While no party requested reconsideration of the city-pair format this is the form in which Airlift's application in Docket 26324 was filed (note 1 supra), and the Bureau suggests in its answer to the petition for reconsideration that the country basis might be preferable. The Bureau correctly states that it has been our practice in recent years to grant authority to all-cargo carriers on a country-by-country basis. Section 401(e)(2) of the Federal Aviation Act explicitly permits the designation of foreign authority by country. The certificates of Flying Tiger and Seaboard World Airlines describe foreign points in that manner as do many of the certificates for foreign air transportation held by the combination carriers. This type of certificate allows carriers a greater degree of flexibility in reaching the most useful and economical pattern of service, while the Board maintains a good deal of control over the remaining public interest factors through the requirement that service plans be filed with the Board and implemented only after Board approval.

While recognizing the desirability of country-based certificates the Bureau urges that any consideration of using them in these markets be postponed until such time as a consolidated proceeding involving the certificates of all U.S. carriers to Latin America is initiated. We do not agree that there is need for such delay. The potential advantages of country-based certificates clearly warrants consideration of their use in the present investigation. To the extent therefore that Airlift's petition for reconsideration requests the inclusion of additional points in Venezuela, Colombia, and Brazil, it will be granted as a result of our determination to consider certification on a country-by-country basis.

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[2] The new scope of this case will not, of course, prevent the Board, should the public convenience and necessity require, from limiting the certificate of a carrier or carriers to a specific point or points in a foreign country.

We will deny Airlift's petition for reconsideration to the extent that it requests inclusion of points in Peru or Bolivia. Peru exchanged 16,150,000 pounds of air cargo with the United States in 1974 and Bolivia only 5,343,000. In setting this case down for hearing we limited the scope of the proceeding to points in the nine Latin American countries which had exchanged more than 20 million pounds of air cargo with the United States in 1974, according to the statistics published by the United States Bureau of Census. We will adhere to that standard as the basis for determining the countries which will be included in the case.[3] Structuring the investigation in this matter permits all participants to concentrate on the markets which have demonstrated the most traffic support. We remain of the view that this is the most realistic and prudent way to proceed. Airlift does not cite any factors which warrant a departure from the 20 million pound standard in the case of Peru or Bolivia. Including these countries would unduly expand the issues and burden and delay the investigation.

In accordance with Airlift's suggestion and our decision to consider country-based certificates, the Board will add Jamaica to the case on its own motion. While the 5.3 percent average annual growth of cargo traffic exchanged in recent years between Jamaica and the United States has not equaled that of the points already included in the case, the cargo stood at 19,968,000 pounds in 1974 only slightly below the 20 million pound level. Moreover, since Order 76-5-92 was adopted, U.S.-flag cargo service to Jamaica by existing combination carriers has taken several setbacks. In Order 76-3-84 the Board granted Pan American's request for temporary suspension of its passenger service to Jamaica and its cargo service to Montego Bay. In Order 76-6-23 we granted Pan American's request to suspend cargo service at Kingston. In addition Eastern has been authorized in Order 76-9-29 to delete all service at Kingston. Expansion of the issues to include Jamaica in the case will increase our flexibility by allowing us to deal with the air cargo needs to and from a country which has exchanged a significant amount of cargo with the United States and to which the available U.S.-flag all-cargo service has significantly declined.

The Board will not enlarge the case to include the need for all-cargo service between the U.S. coterminals and St. Johns, Antigua. According to the Census Bureau data, the Windward and Leeward Islands as a whole exchanged only 4,730,000 pounds of freight with the U.S. in 1974, far below the standard we have adopted in this case.[4] The Tourist and Trade Department of Antigua has presented no arguments which warrant departure from the standard in the case of that country.

On the other hand, American's request to include Barbados and Curacao will be granted. While both points are also substantially below the 20 million pound standard,[5] there is valid reason to include them. By its application in this case and its request to consolidate these two additional points American is simply requesting that its existing authority to serve various points in the Caribbean be combined into one segment for all-cargo operations and that Caracas be added as a terminal point. American is therefore seeking all-cargo authority at only one point where it does not now have such authority, and that point—Caracas—is already at issue in this proceeding. The request to add Barbados and Curacao, N.W.I., is therefore quite limited and including the points will not unduly delay or burden the proceeding.

Finally, the case will be expanded by substituting "a point or points in Puerto Rico" for San Juan, Puerto Rico, as the third U.S. coterminal in issue. The program of economic development of the area of Borinquen Airport on which the Commonwealth is embarked warrants consideration of the air-cargo service needs of that area. In addition, however, as the Bureau points out, the case, as presently structured, will generate an analysis of the cargo needs of the entire Island and that, accordingly, there is no particular reason to limit the possibility of service exclusively to San Juan. We agree with the Bureau that the matter can best be resolved by placing in issue authority to serve any point in Puerto Rico and that such action would not unduly expand the proceeding.

Accordingly, *It is ordered*, That:

1. The issues in the United States-Latin America All-Cargo Service Investigation, Docket 29295, be and they hereby are revised by deleting subparagraphs (a) and (b) of paragraph 2 of the ordering clause in Order 76-5-92 and substituting the following:

a. Do the public convenience and necessity require the certification of an air carrier or air carriers to engage in foreign air transportation of property and mail between the coterminal points Miami, Fla., Houston, Tex., and a point or points in Puerto Rico, on the one hand, and a point or points in Mexico, Nicaragua, Haiti, Dominican Republic, Jamaica, Colombia, Ecuador, Brazil, and Argentina, on the other hand?

b. If the answer to (a) is in the affirmative, (i) which air carrier(s) should be authorized to engage in such service, and (ii) what conditions, if any, should be placed on the operation of such carriers?

c. Do the public convenience and necessity require the grant of authority to American Airlines to engage in foreign air transportation of property and mail between a point or points in Puerto Rico and Barbados via points in the Dominican Republic and/or Haiti and between a point or points in Puerto Rico and Caracas, Venezuela, via points in the Dominican Republic, Haiti, and/or Curacao?[6] If such authority is granted, what conditions, if any, should be imposed thereon?;

2. The application of American Airlines in Docket 29392 and the application of Southern Air Transport, Inc., in Docket 29397 to the extent they conform to the scope of the issues be and they hereby are consolidated into his proceeding;

3. The petition for reconsideration of Order 76-5-92 filed by Airlift International, Inc., to the extent not granted herein, be and it hereby is denied;

4. Additional or amended applications conforming to the revised scope of the proceeding together with motions to consolidate such applications for hearing and decision herein, shall be filed within 10 days of the date of service of this order; and

5. Except to the extent granted, all other requests in the petitions, motions, and answers discussed herein, be and they hereby are denied.

This order will be published in the FEDERAL REGISTER.

By the Civil Aeronautics Board.

PHYLLIS T. KAYLOR,
Secretary.

[FR Doc.76-28210 Filed 9-24-76;8:45 am]

COMMITTEE FOR THE IMPLEMENTATION OF TEXTILE AGREEMENTS

REPUBLIC OF THE PHILIPPINES

Establishing Import Levels for Certain Cotton and Man-Made Fiber Textile Products

SEPTEMBER 22, 1976.

On October 15, 1975, in furtherance of the objectives of, and under the terms of, the Arrangement Regarding International Trade in Textiles done at Geneva on December 20, 1973, the Governments of the United States and the Republic of the Phillippines concluded a comprehensive bilateral cotton, wool, and man-made fiber textile agreement concerning exports of cotton, wool, and man-made fiber textile products from the Philippines to the United States over a period of three years beginning on October 1, 1975 and extending through September 30, 1978. Among the provisions of the agreement are those establishing specific export limitations for cotton textile products in categories 39, 45/46/47, 49, 50, and 51, and man-made fiber textile products in Categories 214, 219, 224 (excluding infants' garments in sizes zero through 6X, inclusive), 225, 229, 235, and 237 for the agreement year beginning on October 1, 1976.

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[3] As a technical matter the Census Bureau's air-cargo data is more accurate as an analytical basis for scoping the investigation now than it was before. The data is based on air-cargo traffic exchanged between the United States and the entire foreign country involved not merely the major air hub of that country.

[4] The Windward and Leeward Islands include a number of other Islands besides Antigua some of which have airports and scheduled service to the United States. It is unlikely therefore that all of the air cargo reported for 1974 originated in or was destined for Antigua.

[5] Barbados exchanged 5,250,000 pounds of air cargo with the U.S. in 1974 and the Netherlands Antiles as a whole exchanged 12,965,000 pounds.

[6] It is not our intention to preclude the authorization of nonstop service by American between San Juan and Barbados and between San Juan and Caracas.

There is published below a letter of September 22, 1976, from the Chairman of the Committee for the Implementation of Textile Agreements to the Commissioner of Customs directing that the amounts of cotton, and man-made fiber textile products in the foregoing categories, produced or manufactured in the Philippines, which may be entered or withdrawn from warehouse for consumption in the United States during the twelve-month period beginning on October 1, 1976 and extending through September 30, 1977, be limited to the designated levels.

This letter and the actions taken pursuant thereto are not designed to implement all of the provisions of the bilateral agreement, but are designed to assist only in the implementation of certain of its provisions.

ROBERT E. SHEPHERD,
Acting Chairman, Committee for the Implementation of Textile Agreements, and Acting Deputy Assistant Secretary for Resources and Trade Assistance, Department of Commerce.

COMMITTEE FOR THE IMPLEMENTATION OF TEXTILE AGREEMENTS

SEPTEMBER 22, 1976.

COMMISSIONER OF CUSTOMS,
Department of the Treasury,
Washington, D.C.

DEAR MR. COMMISSIONER: Under the terms of the Arrangement Regarding International Trade in Textiles done at Geneva on December 20, 1973, pursuant to the Bilateral Cotton, Wool and Man-Made Fiber Textile Agreement of October 15, 1975, between the Governments of the United States and the Republic of the Philippines, and in accordance with the provisions of Executive Order 11651 of March 3, 1972, you are directed to prohibit, effective on October 1, 1976, and for the twelve-month period extending through September 30, 1977, entry into the United States for consumption and withdrawal from warehouse for consumption of cotton textile products in Categories 39, 45/46/47, 49, 50 and 51 and man-made fiber textile products in Categories 214, 219, 224 (pt.), 225, 229, 235, and 237, produced or manufactured in the Philippines, in excess of the following levels of restraint:

Category:		*12-mo level of restraint*
39	dozen pairs	414,039
45/46/47	square yards	[1]3,745,000
49	dozen	42,800
50	do	107,000
51	do	107,000
214	dozen pairs	1,070,000
219	dozen	348,938
Pt. 224 (only T.S.U.S.A. Nos. 380.0420 and 380.8143)	pounds	107,000
Pt. 224 (only T.S.U.S.A. Nos. 380.0402 and 380.8103)	do	107,000
225	dozen	2,675,000
229	do	214,000
235	do	32,100
237	numbers	192,600

[1] Equivalent.

In carrying out this directive, entries of cotton and man-made fiber textile products in the foregoing categories, produced or manufactured in the Republic of the Philippines and exported to the United States prior to October 1, 1976, shall, to the extent of any unfilled balances, be charged against the levels of restraint established for such goods during the period October 1, 1975 through September 30, 1976. In the event that the levels of restraint established for that twelve-month period have been exhausted by previous entries, such goods shall be subject to the levels set forth in this letter.

The levels of restraint set forth above are subject to possible future adjustment pursuant to the provisions of the bilateral agreement of October 15, 1975 between the Governments of the United States and the Republic of the Philippines which provide, in part, that: (1) Within the group limits, specific levels of restraint may be exceeded by 7 percent in any agreement year; (2) specific levels of restraint may be increased for carryover and carryforward up to 11 percent of the receiving year's applicable limits; and (3) administrative arrangements or adjustments may be made to resolve minor problems arising in the implementation of the agreement. Appropriate adjustments under the foregoing provisions of the bilateral agreement will be made to you by letter.

A detailed description of the categories and rates of conversion into square yards equivalent was published in the FEDERAL REGISTER on February 3, 1975 (40 F.R. 5010), as amended on December 31, 1975 (40 F.R. 60220).

In carrying out the above directions, entry into the United States for consumption shall be construed to include entry for consumption into the Commonwealth of Puerto Rico.

The actions taken with respect to the Government of the Republic of the Philippines and with respect to imports of cotton and man-made fiber textile products from the Philippines have been determined by the Committee for the Implementation of Textile Agreements to involve foreign affairs functions of the United States. Therefore, the directions to the Commissioner of Customs, being necessary to the implementation of such actions, fall within the foreign affairs exception to the rulemaking provisions of 5 U.S.C. 553. This letter will be published in the FEDERAL REGISTER.

Sincerely,

ROBERT E. SHEPHERD,
Acting Chairman, Committee for the Implementation of Textile Agreements, and Acting Deputy Assistant Secretary for Resources and Trade Assistance, United States Department of Commerce.

[FR Doc.76-28221 Filed 9-24-76;8:45 am]

CONSUMER PRODUCT SAFETY COMMISSION

NATIONAL ADVISORY COMMITTEE FOR THE FLAMMABLE FABRICS ACT

Meeting

Notice is given that a meeting of the National Advisory Committee for the Flammable Fabrics Act will be held on Tuesday, October 12, beginning at 2:00 p.m. and Wednesday, October 13, beginning at 9:30 a.m. The meeting will be held at the Commission's new location, 1111 18th Street, N.W., 3rd Floor Hearing Room.

The National Advisory Committee provides advice and recommendations on Commission proposal and plans for reducing the frequency and severity of burn injuries involving flammable fabrics.

Agenda topics tentatively scheduled include a discussion of the definition of sleepwear, care labeling, and an overview of compliance activities under the Flammable Fabrics Act.

Persons wishing to make oral or written presentations to the National Advisory Committee should notify the Secretary at least five (5) days in advance of the meeting.

The meeting is open to the public: however, space is limited. Further information concerning this meeting and the final agenda may be obtained from the Office of the Secretary, Consumer Product Safety Commission, Washington, D.C. 20207, phone (202) 634-7700.

Dated: September 22, 1976.

SADYE E. DUNN,
Secretary, Consumer Product Safety Commission.

[FR Doc.76-28168 Filed 9-24-76;8:45 am]

EXPORT-IMPORT BANK OF THE UNITED STATES

ADVISORY COMMITTEE

Meeting

SEPTEMBER 23, 1976.

Pursuant to the Federal Advisory Committee Act, 5 U.S.C. App I, (the Act) notice is hereby given that an open meeting of the Advisory Committee of the Export-Import Bank of the United States will take place in the Export-Import Bank of the United States at 811 Vermont Avenue, N.W., Washington, D.C., Room Number 1141, on October 18, 1976, beginning at 10:00 a.m. and ending at approximately 12:00 noon.

The Agenda for the meeting will include: Review Progress of Policies and Programs against Statement of Purpose of Eximbank.

In order to permit Export-Import Bank to arrange suitable accommodations, members of the public who plan to attend the meeting should notify the Advisory Committee Management Officer, Miss Joan P. Harris, 811 Vermont Avenue, N.W., Washington, D.C. 20571.

JOAN P. HARRIS,
Advisory Committee Management Officer.

[FR Doc.76-28192 Filed 9-24-76;8:45 am]

FEDERAL ENERGY ADMINISTRATION

STATE REGULATORY ADVISORY COMMITTEE

Meeting

Pursuant to the provisions of the Federal Advisory Committee Act (Pub. L. 92-463, 86 Stat. 770) notice is hereby given that the State Regulatory Advisory Committee will meet Friday, October 15, 1976, at 10 a.m., Room 3000A, 12th & Pennsylvania Avenue, NW., Washington, D.C.

The Committee was established to provide the Federal Energy Administration with advice and information concerning its plans and programs which are related to the responsibilities of State regulatory commissions.

The agenda for the meeting is as follows:

1. Report on Meeting Between National Association of Regulatory Utility Commissioners (NARUC) Representatives and Senior Administration Energy Officials.
2. Energy Demand Forecast: Shortfall or Surplus:
   a. State Programs,
   b. Utility Programs,
   c. Commercial and Industrial Programs.
3. FEA State Grant Procedures.
4. Administration Policy in State Nuclear Initiatives.
5. Auditing of Fuel-Adjustment Charges for Electric Utilities.

Subcommittees may meet informally in Washington, D.C. the preceding evening, at the discretion of the Subcommittee Chairmen; the meetings will be open to the public. For further information on Subcommittee activities, call Lois G. Weeks, Director, Advisory Committee Management, at (202) 961-7022.

The Committee meeting is open to the public. The Chairman of the Committee is empowered to conduct the meeting in a fashion that will, in his judgment, facilitate the orderly conduct of business. Any member of the public who wishes to file a written statement with the Committee will be permitted to do so, either before or after the meting. Members of the public who wish to make oral statements should inform the Director, Advisory Committee Management, at least 5 days prior to the meeting and reasonable provision will be made for their appearance on the agenda.

Further information concerning this meeting may be obtained from the Advisory Committee Management Office.

Minutes of the meeting will be made available for public inspection in the Freedom of Information Office, Room 2107, Federal Energy Administration, 12th and Pennsylvania Avenue, NW., Washington, D.C.

Issued at Washington, D.C. on September 21, 1976.

MICHAEL F. BUTLER,
General Counsel.

[FR Doc.76-28151 Filed 9-22-76;10:22 am]

FEDERAL MARITIME COMMISSION

COMPAGNIE GENERALE TRANSATLANTIQUE, S.A. (FRENCH LINE) ET AL.

Agreement Filed

Notice is hereby given that the following agreement has been filed with the Commission for approval pursuant to section 15 of the Shipping Act, 1916, as amended (39 Stat. 733, 75 Stat. 763, 46 U.S.C. 814).

Interested parties may inspect and obtain a copy of the agreement at the Washington office of the Federal Maritime Commission, 1100 L Street, N.W., Room 10126; or may inspect the agreement at the Field Offices located at New York, N.Y., New Orleans, La., San Juan, Puerto Rico and San Francisco, California. Comments on such agreements, including requests for hearing, may be submitted to the Secretary, Federal Maritime Commission, Washington, D.C. 20573, on or before October 7, 1976. Any person desiring a hearing on the proposed agreement shall provide a clear and concise statement of the matters upon which they desire to adduce evidence. An allegation of discrimination or unfairness shall be accompanied by a statement describing the discrimination or unfairness with particularity. If a violation of the Act or detriment to the commerce of the United States is alleged, the statement shall set forth with particularity the acts and circumstances said to constitute such violation or detriment to commerce.

A copy of any such statement should also be forwarded to the party filing the agreement (as indicated hereinafter) and the statement should indicate that this has been done.

COMPAGNIE GENERALE TRANSATLANTIQUE, S.A. (FRENCH LINE) AND ARMEMENT DEPPE, S.A. AND OZEAN/STINNES LINES JOINT SERVICE

Notice of Agreement Filed by:

Edwin Longcope, Esquire, Hills, Betts & Nash, One World Trade Center, Suite 5215, New York, New York 10048.

Agreement No. 9891-6, among the above named carriers, modifies the basic agreement to reflect the withdrawal of French Line as a party and to delete all reference to French Line in the agreement. By Order of the Federal Maritime Commission.

Dated: September 22, 1976.

FRANCIS C. HURNEY,
Secretary.

[FR Doc.76-28211 Filed 9-24-76;8:45 am]

CERTIFICATES OF FINANCIAL RESPONSIBILITY (OIL POLLUTION)

Certificates Issued

Notice is hereby given that the following vessel owners and/or operators have established evidence of financial responsibility, with respect to the vessels indicated, as required by Section 311(p)(1) of the Federal Water Pollution Control Act, and have been issued Federal Maritime Commission Certificates of Financial Responsibility (Oil Pollution) pursuant to Part 542 of Title 46 CFR.

Certificate No.	*Owner/Operator and vessels*
01084	The West Hartlepool Steam Navigation Co., Ltd.: *Ardenhall.*
01343	Hamburg - Sudamerikanische Dampfschiffahrts - Gesellschaft Eggert & Amsinck: *Santa Elena.*
01466	Common Bros. (Management) Ltd.: *Afghanistan.*
01718	Stockholms Rederiaktiebolag Svea: *Birka.*
01755	Hugo Stinnes: *Sapele.*
01890	A/S Billabong: *Star Amalfi.*
02039	Gryf Deep Sea Fishing Co.: *Bonito.*
02040	Odra-Swinoujscie: *Tazer, Rybak Morski.*
02194	Compagnie Generale Transatlantique: *Hornbelt.*
02367	Canadian Pacific (Bermuda) Ltd.: *Fort Kamloops.*
02416	Boland & Cornelius Inc.: *Buffalo.*
02471	P. T. Djakarta Lloyd: *Djatiwangie.*
02911	Sig. Bergsen D. Y. & Co.: *Bergebonde.*
02940	J. S. Gissel & Co.: *Buffalo 84.*
02959	Koyuko Kaiun Kabushiki Kaisha: *Fumikawa Maru.*
02961	Kobe Kisen Kabushiki Kaisha: *Yasukawa Maru.*
02976	Arthur-Smith Corp.: *J & S 4000.*
03055	Upper Lakes Shipping Ltd.: *Canadian Mariner, Canadian Hunter, Canadian Leader.*
03094	Malaysia Marine Corp.: *Villanger.*
03516	Toko Kaiun K.K.: *Torai Maru No. 1.*
03614	A/S Kristian Jebsens Rederi: *Baynes, Bolnes.*
03690	The Harbor Tug and Barge Co.: *Miami, 250-1, 250-5, 250-6, 250-7, 250-8, 250-9, 250-10, 250-11.*
03692	Marmac Corp.: *KS-102.*
03695	Wood River Harbor Service, Inc.: *AOC So. 2, CE 59.*
04171	Young Bros., Ltd.: *Maukana.*
04359	Reederei Nord Klaus E. Oldendorff: *Nordheim, Nordholm.*
04623	Seaspan International Ltd.: *Seaspan 702.*
05004	Flowers Transportation Inc.: *Colonel George Lambert.*
05155	Bultema Dock & Dredge Co.: *Barbara Andrie, B-16.*
05239	Zapata Off-Shore Co.: *Endeavour.*
05355	First Lamda Shipping Inc.: *Alexandroupolis.*
05886	Hughes Bros. Inc.: *Hughes No. 10, Hughes No. 311.*
06359	Malaysian International Shipping Corp., Berhad: *Rimba Meranti.*

Certificate No.	*Owner/Operator and vessels*
06765	Sameiet M/S Pan: *Pan.*
06942	Colossus Maritime S.A.: *Concordia Fjord.*
07574	Georgian Shipping Co.: *Kutaisi, Sukhumi, Fore Mosulishvili, Sovetskiy Khudozhnik, Vasiliy Kikvidze.*
07582	MSSS. Co., S.A.: *Kurtia.*
07640	Exxon Co. U.S.A.: *Exxon Barge No. 341, Exxon Barge No. 342, Exxon Barge No. 343, Exxon Barge No. 344, Exxon Memphis.*
07662	Tankreederei De Vries & Co., KG.: *World Discoverer.*
08041	Compania Alecos S.A.: *Dapo Alecos.*
09018	Sigurd Helofson & Co. A.S.: *Tank Baroness.*
09074	Zuito Shipping Co. Ltd.: *Rhein Maru.*
09389	Triangle Shifting and Fleeting Service, Inc.: *Frances M. Hougland.*
09546	Robco Shipping Co., S.A.: *Ana Patricia.*
09589	Union Heung San Co., Ltd.: *Il Woo No. 58.*
09746	Dranlama, Ltd.: *Valiant I.*
09792	United Fair Agencies Ltd.: *Katharine, Yancey, Natasha, Marsha, Ophelia.*
10136	Oriental Armonia S.A.: *Bela Rozo, Bela Kosmo.*
10153	Johan Reksten Rederi A/S: *Jorek Combiner.*
10260	Hollywood Marine, Inc.: *GDM 10, GDM 20, GDM 30, GDM 60, Hollywood 2200, B–27, Hollywood 2005.*
10322	Duk Soo Moolsan Co. Ltd.: *Sunny No. 17, Sunny No. 35.*
10330	United Car Transport Corp. S.A.: *World Wing.*
10772	Flota Global S.A.: *Atlantic Albatross, Count Albatross, Michaelson Queen, Tokelau.*
10931	Hansung Shipping Co. Ltd.: *Blue Kochi, Blue Pegasus.*
10992	Palm Star Lines Private Ltd.: *Palmstar Cherry.*
10997	Spanocean Line Ltd.: *Kungsphamn.*
11140	Olympic Shipping Lines Inc.: *Halcyon Star, Halcyon Sol.*
11167	Solec Fisheries S.A.: *Carolina.*
11304	Issei Kaiun Yugen Kaisha: *Maru Tatsu Maru No. 28.*
11348	Markham & Brown Inc.: *Barge MRC 116, Barge MRC 207, Barge MRC 208, Barge MRC 209, Barge MRC 211, Barge MRC 216, Barge 229, Barge MRC 231.*
11388	Federal Transport Co., Inc: *Fruco, Banana Planter, Banana Reefer, Lord Frontenac, Lord De France, Lord Niagara.*
11399	Atwood Oceanics Inc.: *Vicksburg.*
11400	J. L. Offshore Drilling A/S: *Danwood Ice.*
11401	Iligan Bay Express Corp.: *Iligan Merchant.*
11404	Il Shin Fisheries Co., Ltd.: *Il Shin No. 12.*
11414	Apoikia Shipping Corp.: *Apoikia.*
11415	New Sun Aster Maritime (Panama) S.A.: *Sun Aster.*
11416	Transatlantic Investment Corp.: *Selefkia.*
11435	Erato Shipping and Trading Corp. S.A.: *Deka Eri, Deka Epta, Deka Okto, Deka Ennea.*
11443	Sameiet Stavern: *Stavern.*
11444	Sameiet Permina III: *Permina III.*
11455	Athens Maritime Enterprises Corp.: *Andreas Lemos.*
11457	Lambo Shipping Co. S.A.: *Michael K.*
11472	Energy Shipping Co. Ltd.: *Afran Energy, Asian Energy.*
11492	Wakamatsu Kaiun Kabushiki Kaisha: *Subaru Maru.*
11495	Canero Compania Naviera S.A.: *Erini Patera.*
11502	Transportes Del Mar: *Punta Brava.*
11516	Dai Ichi Kisen Co. Ltd.: *Sun River.*
11521	Borg-Warner Corp.: *BWC–101.*
11525	Bauxite Bulk Carriers Inc.: *Rio Nunez.*
11527	International Carrier Steamship Co. Ltd.: *Incas Mary.*
11538	Hall-Buck Marine Services Co., a joint venture of Leonard J. Buck and Co., Inc., and Hall Marine Corp.: *Mid River I, Mid River II, Mid River III.*
11551	Akramale Shipping Corp., S.A.: *Heogh Benin.*
11558	Skysea Corp. S.A.: *Titika.*
11582	Pontchartrain Dredging Corp.: *Maurepas, Unloader No. 5.*
11588	Ioannina Enterprises Shipping Corp.: *Successor.*
11602	Bremer Schiffahrtsgesellschaft G.m.b.H. & Co. KG.: *Caribe.*
11605	Bettycadomas Shipping Corp.: *New Cadmus.*
11609	Monarch Cruise Lines Inc.: *Monarch Sun.*
11614	Chung Gai Ship Management Co., Ltd.: *Vivien, Verbena.*
11616	Sunny Shipping Co., Inc.: *Young Spirit.*
11618	Santa Ines Maritima S.A.: *Santa Ines.*
11622	Neddrill I B.V.: *Neddrill I.*
11636	Pacific Shipping Agency Inc.: *Cape Pacific.*
11637	Partenreederei Ms Zepatlantic": *Gulf Pioneer.*
11638	SC Deckships 3 Ltd.: *Ghazi.*
11640	Passaat Bonaire Shipping Co. N.V.: *Passaat Bonaire.*
11641	Dee Navigation Ltd.: *Roebuck.*
11642	Circle (Panama) S.A.: *Union Australia.*
11643	Compangie Negah Etablissement: *Dixy Porr, Kitty Porr.*
11645	Afales Shipping Co.: *Triton.*
11646	Swift Marine Inc.: *Ona Fay, SM–3, SM–4, SM–5, SM–6.*
11624	Liberian Shield Transports Inc.: *World Baroness.*
11625	Liberian Vertex Transports Inc.: *World Kingdom.*
11626	Liberian Argo Transports Inc.: *World Knight.*
11627	Liberian Finch Transports Inc.: *World Premier.*
11628	Liberian Swift Transports Inc.: *World Princess.*
11629	Liberian Jaguar Transports Inc.: *World Renown.*
11630	Liberian Eternity Transports Inc.: *World Victoria.*
11631	Koch Shipping Inc.: *Kristel.*
11632	General Overseas Shipping Corp., S.A.: *Saint Unzen.*
11623	Golden Panagia Steamship Inc.: *Golden Panagia.*
11634	Golden Eagle Steamship Inc., *Golden Eagle.*
11647	Bluebird Navigation Ltd.: *Ocean Venus.*
11648	Aktion Maritime Corp.: *Aktion.*
11651	Laggan Bay Shipping Co. Ltd.: *Eastern Academy.*
11653	Utah Transport Inc.: *Koll, Aphrodite.*
11655	Rederikommanditselskabet Steencoasters X: *Alice Steen.*
11656	Dominance Shipping Inc.: *Sanko Prestige.*
11659	West Indies Oil Co. Ltd.: *Bunker Antigua.*
11661	Excelsior Maritime Ltd.: *Calypso Trader.*
11664	Palmist Shipping Corp.: *Palmis.*
11665	Houston Oil & Minerals Corp.: *LBT No. 9, W–143.*
11666	Sundene Chartering Co., Inc.: *Viking Trader.*
11669	Dillingham Corp. of Guam: *DG–3, DG–4.*
11670	Kyoto Shipping Co., Ltd.: *Atlantic Progress.*
11672	Vela Shipping Ltd.: *Noga.*
11673	Golden Stone Shipping Co., S.A.: *Kim Shin.*
11674	Park Shipping Corp.: *Asian Palm.*
11676	Longan Shipping Pte. Ltd.: *Aventicum.*
11678	Ludlow Navigation Co. Ltd.: *World Unicorn.*
11679	Hendale Navigation Co., Ltd.: *World Cavalier.*
11680	Murton Shipping Corp.: *Concord.*
11681	Navios Pioneer Inc.: *Navios Pioneer.*
11682	Eagle Shipping Corp.: *Royal Eagle.*
11683	Melancon Barges, Inc., *M–C–N Oil Barge No. 3.*
11684	Tramp S.A.: *Alcantara, Santiago.*
11686	Panwood Shipping Ltd.: *Honesty.*
11693	Bettyapollo Shipping Corp.: *New Apollo.*
11694	Ocean Oil Commerce, Inc.: *Golar Patricia.*

By the Commission.

Francis C. Hurney,
Secretary.

[FR Doc.76–28213 Filed 9–24–76;8:45 am]

[Independent Ocean Freight Forwarder License No. 1395]

CONSOLIDATED CARGO CORP.

Order of Revocation

By letter dated August 16, 1976, Mr. Mark Benson, Consolidated Cargo Corporation, 5131 NW, 2nd Terrace, Miami, FL 33126, was advised by the Federal Maritime Commission that Independent Ocean Freight Forwarder License No. 1395 would be automatically revoked or suspended unless a valid surety bond was filed with the Commission on or before September 15, 1976.

Section 44(c), Shipping Act, 1916, provides that no independent ocean freight forwarder license shall remain in force unless a valid bond is in effect and on file with the Commission. Rule 510.9 of Federal Maritime Commission General Order 4, further provides that a license will be automatically revoked or suspended for failure of a licensee to maintain a valid bond on file.

Consolidated Cargo Corporation has failed to furnish a valid surety bond.

By virtue of authority vested in me by the Federal Maritime Commission as set forth in Manual of Orders, Commission Order No. 201.1 (Revised) Section 5.01 (c) dated June 30, 1975;

It is ordered, That Independent Ocean Freight Forwarder License No. 1395 issued to Consolidated Cargo Corporation be returned to the Commission for cancellation.

It is further ordered, That Independent Ocean Freight Forwarder License No. 1395 be and is hereby revoked effective September 15, 1976.

It is further ordered, That a copy of this Order be published in the FEDERAL REGISTER and served upon Consolidated Cargo Corporation.

LEROY F. FULLER,
Director, Bureau of Certification and Licensing.

[FR Doc.76-28212 Filed 9-24-76;8:45 am]

FEDERAL POWER COMMISSION

[Docket Nos. G-19589, et al.]

BELCO PETROLEUM CORP., ET AL.

Applications for Certificates, Abandonment of Service and Petitions To Amend Certificates [1]

SEPTEMBER 20, 1976.

Take notice that each of the Applicants listed herein has filed an application or petition pursuant to Section 7 of the Natural Gas Act for authorization to sell natural gas in interstate commerce or to abandon service as described herein, all as more fully described in the respective applications and amendments which are on file with the Commission and open to public inspection.

Any person desiring to be heard or to make any protest with reference to said applications should on or before October 12, 1976, file with the Federal Power Commission, Washington, D.C. 20426, petitions to intervene or protests in accordance with the requirements of the Commission's Rules of Practice and Procedure (18 CFR 1.8 or 1.10). All protests filed with the Commission will be considered by it in determining the appropriate action to be taken but will not serve to make the protestants parties to the proceeding. Persons wishing to become parties to a proceeding or to participate as a party in any hearing therein must file petitions to intervene in accordance with the Commission's Rules.

Take further notice that, pursuant to the authority contained in and subject to the jurisdiction conferred upon the Federal Power Commission by Sections 7 and 15 of the Natural Gas Act and the Commission's Rules of Practice and Procedure a hearing will be held without further notice before the Commission on all applications in which no petition to intervene is filed within the time required herein if the Commission on its own review of the matter believes that a grant of the certificates or the authorization for the proposed abandonment is required by the public convenience and necessity. Where a petition for leave to intervene is timely filed, or where the Commission on its own motion believes that a formal hearing is required, further notice of such hearing will be duly given.

Under the procedure herein provided for, unless otherwise advised, it will be unnecessary for Applicants to appear or to be represented at the hearing.

MISS LOIS D. CASHELL,
Acting Secretary.

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[1] This notice does not provide for consolidation for hearing of the several matters covered herein.

Docket No. and date filed	Applicant	Purchaser and location	Price per 1,000 ft^3	Pressure base
G-19589........ C 6-7-76 7-6-76 7-19-76 8-30-76	Belco Petroleum Corp., One Dag Hammarskjold Plaza, New York, N.Y. 10017.	Northwest Pipeline Corp., Big Piney Field, Sublette and Lincoln Counties, Wyo.	[1] [2] $1.42	14.73
CI75-165........ C 8-18-76	Chevron Oil Co., Western Division, P.O. Box 599, Denver, Colo. 80201.	Mississippi River Transmission Corp., James No. 1 Well, Mills Ranch (Hunton) Field, Wheeler County, Tex.).	$1.42	14.73
CI75-183........ C 7-9-76	CIG Exploration, Inc., Five Greenway Plaza East, Houston, Tex. 77046.	Colorado Interstate Gas Co..........	[2] 67.9022¢	14.65
CI75-202........ C 7-8-76	Sun Oil Co., P.O. Box 20, Dallas, Tex. 75221.	El Paso Natural Gas Co., J. B. Tubb No. C-13 Well, Sand Hills Field, Crane County, Tex.	61.3166¢	14.65
CI76-236........ C 7-27-76	Arkla Exploration Co., P.O. Drawer 1126, Shreveport, La. 71163.	Arkansas Louisiana Gas Co., Fort Chaffee Field, Sebastian County, Kans.	$0.50	14.65
CI76-268........ A 7-21-76	Phillips Petroleum Co., 5 C4 Phillips Bldg., Bartlesville, Okla. 74004.	El Paso Natural Gas Co., Permian Basin Area, Lea County, N. Mex.—Lusk Plant.	[3] 52.0¢	14.73
CI76-510........ A 4-30-76	The Maurice L. Brown Co., P.O. Box 11320, Kansas City, Mo. 64112.	Colorado Interstate Gas Co., Etta Niles No. 2 Well, NW/4 NE/4 of sec. 32-6N-10ECM, Keyes Field, Texas County, Okla. (limited to gas attributable to 66⅔ pct working interest in the SW/4 of sec. 32-6N-10ECM).	([3] [4])	14.73
CI76-515........ A 7-1-76	Jenny Oil Co., Inc., 3000 One Shell Plaza, Houston, Tex. 77002.	Transcontinental Gas Pipe Line Corp., Block 246 Field, Ship Shoal Area, offshore Louisiana.	[3] 55.6616¢	15.025

Filing code:
A—Initial service.
B—Abandonment.
C—Amendment to add acreage.
D—Amendment to delete acreage.
E—Succession.
F—Partial succession.

See footnotes at end of table.

Docket No. and date filed	Applicant	Purchaser and location	Price per 1,000 ft³	Pressure base
CI76-620 A 8-13-76	Cities Service Oil Co., Box 300, Tulsa, Okla. 74102.	Tennessee Gas Pipeline Co., Grand Isle Block 48 (W/2), offshore Louisiana, limited to the interval between the subsea surface and the base of the FJ Sand.	[2] 0.52¢	14.73
CI76-682 A 830	Sun Oil Co	Northern Natural Gas Co., Emperor Field, Winkler County, Tex.	[3] $1.526798	14.65
CI76-704 B 7-21-76	Wise Oil Co., 2050 First of Denver Plaza, Denver, Colo. 80202.	Northern Natural Gas Co., the Williamson 79-31, the Moore 33-14, and the Moore 74-21 Wells, Sherard Area, Blaine County, Mont.	(5)	--------
CI76-717 B 8-4-76	Sun Oil Co	Columbia Gas Transmission Corp., Fayette County, Pa. and Preston County, W. Va.	(6)	--------
CI76-718 B 8-4-76	do	El Paso Natural Gas Co., Langlie-Mattis Field, Lea County, N. Mex.	(6)	--------
CI76-721 A 8-9-76	Amoco Production Co., P.O. Box 3092, Houston, Tex. 77001.	El Paso Natural Gas Co., Antelope Ridge, et al. Eddy and Lea Counties, N. Mex.	59.2127¢	14.73
CI76-723 B 8-9-76	Sun Oil Co	Lone Star Gas Co., Katie Field, Garvin County, Okla.	(7)	--------
CI76-724 B 8-9-76	do	Lone Star Gas Co., Katie-Gibson Field, Garvin County, Okla.	(7)	--------
CI76-725 A 8-16-76	J. M. Huber Corp., 2000 West Loop South, Houston, Tex. 77027.	Natural Gas Pipeline Co. of America, Amoco State "FQ" Gas Commission No. 1 Well, Antelope Ridge Field, Lea County, N. Mex.	[8] $1.42	14.73
CI76-726 B 8-16-76	Charles A. and Irene F. Burgett, 569 South 89th East Ave., Tulsa, Okla. 74112.	Eufaula Enterprises, Beaver Lease, Kay County, Okla.	(9)	--------
CI76-727 A 8-18-76	Chevron Oil Co., Western Division	Mississippi River Transmission Corp., Mills Ranch (Arbuckle) Field, Wheeler County, Tex.	[3] 50.0¢	14.65
CI76-728 B 8-18-76	Raymond Oil Co., Inc., 200 West Douglas, Wichita, Kans. 67202.	Wunderlich Development Co., Duck Lake, Kay County, Okla.	(10)	--------
CI76-729 A 8-19-76	Mobil Oil Corp., Three Greenway Plaza East, Suite 800, Houston, Tex. 77046.	Transcontinental Gas Pipe Line Corp., South Pelto Block 10 Field, Federal offshore, Louisiana.	[3] 143.37¢	15.025
CI76-730 A 8-19-76	do	Tennessee Gas Pipeline Co. and Columbia Gas Transmission Corp., South Timbalier Blocks 36 and 37 Field, Federal offshore, Louisiana.	[3, 11] 146.37¢ [3, 12] 147.39¢	15.025 15.025
CI76-731 D 8-17-76	Wise Oil Co	Northern Natural Gas Co., certain tracts of land in Liberty County, Mont.	(13)	--------
CI76-559 A 8-26-76	Union Oil Co. of California, P.O. Box 7600, Los Angeles, Calif. 90051.	Transcontinental Gas Pipe Line Corp., Block 35, Block 46 Field, Vermilion Area, offshore Louisiana.	[3, 14] 53.0¢	15.025
CI76-735 A 8-23-76	American Petrofina Exploration Co.; American Petrofina Co. of Texas, 2500 First City National Bank Bldg., Houston, Tex. 77002.	Transco Gas Supply Co., High Island Area Block 154 Field, offshore Texas.	1.75	14.65
CI76-734 A 8-23-76	Mobil Oil Corp	Trunkline Gas Co., Grand Isle Area, Block 93, Federal offshore, Louisiana.	[3] 146.36¢	15.025
CI76-733 A 8-23-76	American Petrofina Exploration Co., 2100 First City National Bank Bldg., Houston, Tex. 77002.	Transcontinental Gas Pipe Line Corp., Galveston Area Block 255 Field, Gulf of Mexico.	[15] 66.939919¢	14.65

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[1] Plus tax reimbursement and subject to upward and downward British thermal unit adjustment from a 1,000 Btu base.

[2] Applicant is willing to accept a certificate pursuant to opinion No. 770.

[3] Subject to upward and downward British thermal unit adjustment.

[4] Base price of 23.5¢ at 14.73 lb/in²a (23.372¢ at 14.65 lb/in²a) until July 1, 1976; effective July 1, 1976, base price of 29.5¢ at 14.73 lb/in²a (29.3397¢ at 14.65 lb/in²a); plus 100-pct tax reimbursement and British thermal unit adjustment above or below 1,000 Btu per cubic foot in accordance with opinion No. 749.

[5] Applicant is the holder of a small producer certificate in docket No. CS73-109, issued Nov. 8, 1972. Montana Power Co. (MPC) proposes to take in kind its proportionate share of all oil and gas produced from the unit area, and MPC proposes to sell its gas in its intrastate pipeline.

[6] Lease expired.

[7] Contract expired.

[8] Plus 100 pct tax reimbursement, with British thermal unit adjustment upward and downward from base of 1,000.

[9] Purchaser involved in bankruptcy proceeding and the compressor plant has been shut down.

[10] Well depleted.

[11] HP gas.

[12] LP gas.

[13] Applicant proposes to sell the production from the subject acreage to either the Montana Power Co. or Great Falls Gas Co.

[14] Applicant is willing to accept a certificate at the national rate as prescribed by opinion No. 770.

[15] Per thousand cubic feet with 1¢ annual escalations commencing Jan. 1, 1977, plus tax reimbursement and adjustment for British thermal unit content.

[16] Per thousand cubic feet for the 1st year following date of 1st delivery, with 6-pct annual escalations, plus 100-pct tax reimbursement and adjustment for British thermal unit content.

[FR Doc.76-28030 Filed 9-24-76;8:45 am]

[Docket No. RI76-154]

CRA, INC.

Order Providing for Hearing on and Suspension of Proposed Change in Rate, and Allowing Rate Change To Become Effective Subject to Refund

SEPTEMBER 17, 1976.

Respondent has filed a proposed change in rate and charge for the jurisdictional sale of natural gas, as set forth in Appendix A hereof.

The proposed changed rate and charge may be unjust, unreasonable, unduly discriminatory, or preferential, or otherwise unlawful.

The Commission finds: It is in the public interest and consistent with the Natural Gas Act that the Commission enter upon a hearing regarding the lawfulness of the proposed change, and that the supplement herein be suspended and its use be deferred as ordered below.

The Commission orders: (A) Under the Natural Gas Act, particularly Sections 4 and 15, the Regulations pertaining thereto (18 CFR, Chapter I), and the Commission's Rules of Practice and Procedure, a public hearing shall be held concerning the lawfulness of the proposed change.

(B) Pending hearing and decision thereon, the rate supplement herein is suspended and its use deferred until date shown in the "Date Suspended Until" column. This supplement shall become effective, subject to refund, as of the expiration of the suspension period without any further action by the Respondent or by the Commission. Respondent shall comply with the refunding procedure required by the Natural Gas Act and § 154.102 of the Regulations thereunder.

(C) Unless otherwise ordered by the Commission, neither the suspended supplement, nor the rate schedule sought to be altered, shall be changed until disposition of this proceeding or expiration of the suspension period, whichever is earlier.

By the Commission.

KENNETH F. PLUMB,
Secretary.

Appendix A

Docket No.	Respondent	Rate schedule No.	Supplement No.	Purchaser and producing area	Amount of annual increase	Date filing tendered	Effective date unless suspended	Date suspended until	Cents per Mcf[1]		Rate in effect subject to refund in docket No.
									Rate in effect	Proposed increased rate	
RI76-154	CRA, Inc.	49	[2] 43	Northern Natural Gas Co. (Texas, Permian).		3-26-76		(3)			
			50		$9,018	8-18-76		7-28-76	[4] 19.8537	[5] 57.4028	

[1] Unless otherwise stated, the pressure base is 14.65.
[2] Renegotiated contract.
[3] Accepted, to become effective at an unspecified date.
[4] Applicant incorrectly reflects rate of 17.5656¢.
[5] Reflects 1.4919 gathering allowance.
[6] Unless otherwise stated, the rate shown is the total rate, inclusive of any applicable British thermal unit adjustment and tax.

CRA has previously filed an abandonment application and an application to amend its certificate in Docket No. CI63-508 to reflect the reclassification of the well together with a request that the sale of oil well gas be considered a new sale or that, in the alternative, the sale be considered as a renegotiated sale under the 1975 contract. Pending determination of the issues relating to whether the subject sale is a "new" sale or the renegotiated contract constitutes a replacement contract for vintaging purposes, we shall suspend CRA's proposed rate increase for one day from the date it would otherwise have become effective.

[FR Doc.76-28032 Filed 9-24-76;8:45 am]

[Docket No. RI76-127]

BILL J. GRAHAM

Order Granting Petition for Special Relief

SEPTEMBER 20, 1976.

On May 13, 1976, Bill J. Graham (Graham) filed in Docket No. RI76-127 a petition for special relief pursuant to Order No. 481 and § 2.76 of the Commission's general policy and interpretations (18 CFR 2.76) with respect to a sale of natural gas to El Paso Natural Gas Company (El Paso) from four wells on the White, Eaton, and Iowa Realty Trust leases located in Pecos County, Texas.

Graham was issued a small producer certificate on April 4, 1967, in Docket No. CS67-45. Pursuant to a gas sales agreement dated July 29, 1959, Graham is currently collecting a rate of approximately 36 cents per Mcf for the sale to El Paso. Graham states that certain remedial operations must be performed on the wells and on the compressor and that if such remedial work is not undertaken, abandonment of the properties is imminent. In order to maintain production from the leases, Graham and El Paso entered into an amendment to their gas sales agreement on May 10, 1976, whereby El Paso agreed to pay Graham $1.07 per Mcf for gas produced from the subject leases in consideration for Graham's performing the necessary remedial operations.

Notice of Graham's petition for special relief was issued on June 8, 1976, and appeared in the FEDERAL REGISTER on June 14, 1976, at 41 FR 24026. No protests or petitions to intervene have been filed.

Based on its analysis of data submitted by Graham, Staff estimates that 51,660 Mcf remain to be produced over a period of four years, and concludes that the requested special relief is warranted. After a careful review of the costs to be incurred and the reserves to be recovered, we conclude that it is in the public interest to grant Graham special relief.[1]

The Commission orders: (A) The petition for special relief of Graham is hereby granted.

(B) Graham is authorized to collect $1.07 per Mcf at 14.65 psia for gas sold to El Paso from Graham's White, Eaton, and Iowa Realty Trust leases in Pecos County, Texas, effective on the date of issuance of this order or on the date of completion of the proposed remedial work, whichever is later. This authorization is contingent upon Graham's filing within 30 days of the date of completion of the proposed remedial work a statement, signed by El Paso, that the proposed remedial work has been performed to El Paso's satisfaction.

By the Commission.

KENNETH F. PLUMB,
Secretary.

[FR Doc.76-28179 Filed 9-24-76;8:45 am]

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[1] The rate increase that we herein authorize Graham to collect does not take into account any effect on Graham's tax liability resulting from the repeal of the percentage depletion allowance by the Tax Reduction Act of 1975.

[Docket No. RI76-150]

BOWERS DRILLING CO., INC.

Notice of Petition for Special Relief

SEPTEMBER 21, 1976.

Take notice that on September 3, 1976, Bowers Drilling Company, Inc. (Bowers), Vickers-KSB&T Building, Wichita, Kansas 67202, filed a petition for special relief in Docket No. RI76-150, pursuant to Commission Order No. 481. Bowers seeks a price increase up to $1.00 per Mcf for the sale of gas to Cities Service Gas Company. The price increase is in consideration for the completion of remedial work on the Durell No. 1 well, Barber County, Kansas.

Any person desiring to be heard or to make any protest with reference to said petition should on or before October 12, 1976, file with the Federal Power Commission, Washington, D.C. 20426, a petition to intervene or a protest in accordance with the requirements of the Commission's Rules of Practice and Procedure (18 CFR 1.8 or 1.10). All protests filed with the Commission will be considered by it in determining the appropriate action to be taken but will not serve to make the protestants parties to the proceeding. Any party wishing to become a party to a proceeding, or to participate as a party in any hearing therein, must file a petition to intervene in accordance with the Commission's Rules.

LOIS D. CASHELL,
Acting Secretary.

[FR Doc.76-28189 Filed 9-24-76;8:45 am]

[Docket No. RI76-148]

BOWERS DRILLING CO., INC.

Notice of Petition for Special Relief

SEPTEMBER 21, 1976.

Take notice that on September 3, 1976, Bowers Drilling Company, Inc. (Bowers), Vickers-KSB&T Building, Wichita, Kansas 67202, filed a petition for special relief in Docket No. RI76-148, pursuant to Commission Order No. 481. Bowers seeks a price increase up to $1.00 per Mcf for the sale of gas to Cities Service Gas Company. The price increase is in consideration for the completion of remedial work on the Gilmore-Chapin No. 2 well, Barber County, Kansas.

Any person desiring to be heard or to make any protest with reference to said petition should on or before October 13, 1976, file with the Federal Power Commission, Washington, D.C. 20426, a petition to intervene or a protest in accordance with the requirements of the Commission's Rules of Practice and Procedure (18 CFR 1.8 or 1.10). All protests filed with the Commission will be considered by it in determining the appropriate action to be taken but will not serve to make the protestants parties to the proceeding. Any party wishing to become a party to a proceeding, or to participate as a party in any hearing therein, must file a petition to intervene in accordance with the Commission's Rules.

LOIS D. CASHELL,
Acting Secretary.

[FR Doc.76-28190 Filed 9-24-76;8:45 am]

[Docket No. ES76-74]

EL PASO ELECTRIC CO.

Notice of Application

SEPTEMBER 21, 1976.

Take notice that on September 15, 1976, El Paso Electric Company (Applicant), filed an application with the Federal Power Commission seeking authority pursuant to Section 204 of the Federal Power Act to issue unsecured promissory notes not to exceed $100,000,000 face value at any one time outstanding.

The Applicant is incorporated under the laws of the State of Texas with its principal business office at El Paso, Texas, and is engaged in the electric utility business in the States of Texas and New Mexico in an area in the Rio Grande Valley extending approximately 110 miles northwesterly from El Paso to the Caballo Dam in New Mexico and 120 miles southeasterly from El Paso to Van Horn, Texas, with a population of approximately 480,000 of whom 365,000 reside in metropolitan El Paso.

The notes, including bank notes and commercial paper, are to have maturities not exceeding twelve months from the dates of issuance, with final maturity dates not later than December 31, 1978.

The interest rate on the Notes to be issued to commercial banks not for resale to the public will be at the prime rate in effect from time to time, plus in some instances, provision for compensating balances of 20%. The interest rate for commercial paper will be the prevailing rate in effect at the time of its issuance for paper of comparative quality and term.

The proceeds from the sale of the Notes will be used, pending permanent financing, to reimburse the Applicant for construction expenditures and to finance a portion of the Applicant's construction program. Applicant's construction program for the years 1976 through 1979 has an estimated cost of $251,000,000.

Any persons desiring to be heard or to make any protest with reference to said application should, on or before October 15, 1976, file with the Federal Power Commission, Washington, D.C. 20426, petitions or protests in accordance with the requirements of the Commission's Rules of Practice and Procedure (18 CFR 1.8 or 1.10). The application is on file and available for public inspection.

LOIS D. CASHELL,
Acting Secretary.

[FR Doc.76-28184 Filed 9-24-76;8:45 am]

[Docket Nos. E-7740, E-8987, and E-9329]

INDIANA AND MICHIGAN ELECTRIC CO.

Notice of Extension of Time

SEPTEMBER 20, 1976.

On September 15, 1976, the Indiana and Michigan Municipal Distributors Association filed a motion to extend the date for filing Briefs on Exceptions to the Initial Decision issued in the above-designated proceeding. The motion states that parties to the proceeding have no objection.

Upon consideration, notice is hereby given that the date for filing Briefs on Exceptions to the Initial Decision in this proceeding is extended to and including October 19, 1976, and the date for filing Briefs Opposing Exceptions is extended to and including November 8, 1976.

LOIS D. CASHELL,
Acting Secretary.

[FR Doc.76-28176 Filed 9-24-76;8:45 am]

[Docket No RI76-153]

JOSEPH P. MUELLER

Notice of Petition for Special Relief

SEPTEMBER 21, 1976.

Take notice that on September 13, 1976, Joseph P. Mueller (Mueller), 1010 Wilson Building, Corpus Christi, Texas 78401, filed a petition for special relief in Docket No. RI76-153 pursuant to § 2.76 of the Commission's General Policy and Interpretations (18 CFR 2.76).

Mueller seeks authorization to charge $1.80 per Mcf for the sale of gas from a well in the La Copita Field, Starr County, Texas. Mueller states that he will be forced to plug and abandon the well if his request for rate relief is not granted. The gas from the well is sold to Tennessee Gas Pipeline Company, P.O. Box 2511, Houston, Texas 77001.

Any person desiring to be heard or to make any protest with reference to said petition should on or before October 12, 1976, file with the Federal Power Commission, Washington, D.C. 20426, a petition to intervene or a protest in accordance with the requirements of the Commission's Rules of Practice and Procedure (18 CFR 1.8 or 1.10). All protests filed with the Commission will be considered by it in determining the appropriate action to be taken but will not serve to make the protestants parties to the proceeding. Any party wishing to become a party to a proceeding, or to participate as a party in any hearing therein, must file a petition to intervene in accordance with the Commission's Rules.

LOIS D. CASHELL,
Acting Secretary.

[FR Doc.76-28191 Filed 9-24-76;8:45 am]

KANSAS CITY POWER & LIGHT CO.

Notice of Tariff Change

SEPTEMBER 21, 1976.

Take notice that on August 26, 1976, Kansas City Power & Light Company (KCPL) tendered for filing proposed changes in the Reserve Equalization and Standby Service Charges included in the General Participation Agreement.

KCPL states that the following are participants under the General Participation Agreement with the following FPC Rate Schedule Numbers:

Kansas City Power & Light Company, Rate Schedule FPC No. 32.
Missouri Public Service Company, Rate Schedule FPC No. 8.
The Empire District Electric Company, Rate Schedule FPC No. 73.
Kansas Gas and Electric Company, Rate Schedule FPC No. 94.
The Kansas Power and Light Company, Rate Schedule FPC No. 7.
Central Telephone & Utilities Corporation, Rate Schedule FPC No. 53.
Central Kansas Power Company Inc., Rate Schedule FPC No. 2.

KCPL states that the purpose of the filing is to adjust the charges which were originally established at the inception of the Agreement in 1962, for the changes in costs which have since occurred.

KCPL requests an effective date of July 1, 1975, for the proposed changes.

KCPL states that the other participants under the General Participation Agreement filed certificates of concurrence to the proposed changes with KCPL's submittal.

Any person desiring to be heard or to protest said application should file a petition to intervene or protest with the Federal Power Commission, 825 North Capitol Street, NE., Washington, D.C. 20426, in accordance with Sections 1.8 or 1.10 of the Commission's Rules of Practice and Procedure (18 CFR 1.8, 1.10). All such petitions or protests should be filed on or before October 8, 1976. Protests will be considered by the Commission in determining the appropriate action to be taken but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a petition to intervene. Copies of this application are on file with the Commission and are available for public inspection.

LOIS D. CASHELL,
Acting Secretary.

[FR Doc.76-28185 Filed 9-24-76;8:45 am]

[Docket No. RI76-131]

MARINE CONTRACTORS & SUPPLY, INC.

Order Approving Petition for Special Relief

SEPTEMBER 20, 1976.

On July 23, 1976, Marine Contractors and Supply, Inc. (Marine) filed an amended petition for special relief pursuant to 18 CFR § 2.76 of the Commission's General Policy and Interpretations, requesting a rate of 85 cents per Mcf for sales of gas to Transcontinental Gas Pipe Line Corporation (Transco) from the Lucy Field, 51, Charles Parish, Louisiana.[1]

The subject gas is presently being sold to Transco at a rate of 27.1617 cents per Mcf pursuant to an August 22, 1957, gas purchase contract identified as California Company's (Calco) FPC Gas Rate Schedule No. 12. Calco assigned its interests in the relevant gas lease to Petitioner effective March 1, 1976, the effective date of Petitioners' small producer certificate (Docket No. CS76-514). Petitioner requests the rate of 85 cents per Mcf to recover the cost of a major reworking of the well in order both to prevent its abandonment and to enable production of its remaining recoverable reserves estimated at 1,056,600 Mcf. Transco, in a June 3, 1976, letter indicated that they were willing to amend the contract the provide for a contract rate of $1.00 per Mcf or such lesser rate authorized by the Commission in a proceeding under Section 2.76.

Upon consideration of the Staff's analysis of the data submitted we find that the amended petition for special relief should be granted. We find that the rate of 85 cents per Mcf is cost justified.

The Commission orders: (A) The amended petition for special relief filed by Marine on July 23, 1976, in the captioned docket is granted effective at the completion of the proposed well reworking or the date of this order, whichever is later: *Provided, That* prior to this order's effective date (a) the necessary contract amendment mentioned in the body of this order has been filed with the Commission and (b) that Transcontinental Gas Pipe Line Corporation has filed a statement with the Commission that the proposed well reworking has been fully completed. Upon full compliance with the terms of this order, Marine is authorized to receive the total rate of 85 cents per Mcf at 15.025 psia requested for the sale of the subject gas.

(B) 18 CFR 157.40(c) is waived only to the extent necessary to permit Marine's small producer certificate issued in Docket No. CS76-514 to cover the subject sale of gas of these developed reserves acquired from a large producer at the rate provided in Ordering Paragraph (A) above.

(C) Marine's notice of price change filing in Docket No. CS76-514 will become effective on the date this order becomes effective pursuant to the terms of paragraph (A) above.

By the Commission.

KENNETH F. PLUMB,
Secretary.

[FR Doc.76-28177 Filed 9-24-76;8:45 am]

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[1] Marine, on June 10, 1976, filed a petition for special relief pursuant to 18 CFR § 2.76 seeking a rate of $1.00 per Mcf. After further evaluation of the project's costs, Marine filed the instant amended petition. The June 10, 1976, petition was noticed on June 30, 1976, and the present amended petition was noticed on August 6, 1976. No protests or petitions to intervene have been received as of August 31, 1976.

[Project No. 401]

MICHIGAN POWER COMPANY

Notice of Issuance of Annual License(s)

SEPTEMBER 21, 1976.

On December 30, 1970, and supplemented February 1, 1971, February 23, 1973, and August 15, 1973, Michigan Power Company, Licensee for Mottville Project No. 401, located on the St. Joseph River in St. Joseph County, Michigan, filed an application for a new license under the Federal Power Act and Commission regulations thereunder.

The license for the Mottville Project No. 401 was issued effective September 19, 1923, for a period ending September 18, 1973. Since the original date of expiration, the project has been maintained and operated under annual licenses, the most recent of which will expire September 18, 1976. In order to authorize the continued operation and maintenance of the project pursuant to the Federal Power Act, pending Commission action on the Licensee's application, it is appropriate and in the public interest to issue an annual license to the Michigan Power Company.

Take notice that an annual license is issued to the Michigan Power Company under the Federal Power Act for the period September 19, 1976, to September 18, 1977, or until the issuance of a new license for the project, or until Federal takeover, whichever comes first, for the continued operation and maintenance of the Project No. 401, subject to the terms and conditions of its present license. Take further notice that if issuance of a new license does not take place on or before September 18, 1977, a new annual license will be issued each year thereafter, effective September 19 of each year, until such time as Federal takeover takes place or a new license is issued, without further notice being given by the Commission.

KENNETH F. PLUMB,
Secretary.

[FR Doc.76-28187 Filed 9-24-76;8:45 am]

[Docket No. E-8494]

MINNESOTA POWER AND LIGHT CO.

Notice of Extension of Time

SEPTEMBER 21, 1976.

On September 13, 1976, a joint motion was filed, authorized by all parties, to extend the date for filing briefs on exceptions to the Initial Decision issued September 1, 1976, in the above-designated proceeding.

Upon consideration, notice is hereby given that the date for filing briefs on exceptions to the Initial Decision is extended to and including October 29, 1976.

KENNETH F. PLUMB,
Secretary.

[FR Doc.76-28186 Filed 9-24-76;8:45 am]

[Docket Nos. RP71-119, RP74-31-22]

PANHANDLE EASTERN PIPE LINE CO.

Order Clarifying Prior Order

SEPTEMBER 20, 1976.

By order of September 3, 1976, the Commission dismissed a petition for extraordinary relief filed by Hercules, Inc. (Hercules) and required payback of the temporary relief volumes already received. Consistent with that disposition on the merits, Panhandle was ordered to withholding daily volumes above 4,600 Mcf/d until payback was completed.

Previously, in an interlocutory order of April 1, 1976, the Commission denied a motion and request by Hercules and dismissed a complaint. Pending a final decision on the relief petition, the Commission held that Hercules should continue to receive 4,600 Mcf/d, and that any additional volumes, to which Hercules was entitled under the revised curtailment plan effective April 1, 1976, should be used to discharge Hercules' outstanding payback obligation. Hercules filed a petition for review of the order of April 1, 1976, with the United States Court of Appeals for the Third Circuit, Hercules, Inc. v. F.P.C., 3rd Cir. No. 76-1593. On July 2, 1976, the Court granted a stay of that order pending its review of the petition.

Our order of September 3, 1976, disposed of Hercules' petition for permanent relief and fully resolved the payback question in this case. The September 3, 1976, order, particularly ordering paragraph (C), was not intended to suggest or require any action by Panhandle or Hercules that is inconsistent with the stay entered by the Third Circuit or to affect the jurisdictional authority that has been exercised by the Court of Appeals.

The Commission further finds and orders: The order of September 3, 1976, in these dockets should be and is clarified as stated above.

By the Commission.

KENNETH F. PLUMB,
Secretary.

[FR Doc.76-28178 Filed 9-24-76;8:45 am]

[Docket No. ER76-889]

ROCHESTER GAS AND ELECTRIC CORP.

Notice of Filing of Firm Power Contract

SEPTEMBER 21, 1976.

Take notice that Rochester Gas and Electric Corporation (Rochester), on September 2, 1976, tendered for filing a rate schedule providing for the sale by Rochester to New York State Electric and Gas Corporation (NYSEG) of 100 MW of firm capability and associated energy. Rochester requests that the Commission permit the rate schedule to be effective as of October 31, 1976. The term of the rate schedule will be from October 31, 1976, through April 23, 1977.

According to Rochester, a copy of the filing was served upon NYSEG and the New York Public Service Commission.

Any person desiring to be heard or to protest said filing should file a petition to intervene or protest with the Federal Power Commission, 825 North Capitol Street, NE., Washington, D.C. 20426, in accordance with §§ 1.8 and 1.10 of the Commission's Rules of Practice and Procedure (18 CFR 1.8, 1.10). All such petitions or protests should be filed on or before October 6, 1976. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a petition to intervene. Copies of this filing are on file with the Commission and are available for public inspection.

LOIS D. CASHELL,
Acting Secretary.

[FR Doc.76-28182 Filed 9-24-76;8:45 am]

[Project No. 199—South Carolina]

SOUTH CAROLINA PUBLIC SERVICE AUTHORITY

Availability of Staff Draft Environmental Impact Statement

Notice is hereby given in the captioned Project, that on or about September 24, 1976, as required by § 2.81(b) of Commission Order No. 415-C, a draft environmental impact statement prepared by the Staff of the Federal Power Commission was made available for comments. This statement deals with the environmental impact of an application for a new license filed pursuant to the Federal Power Act by South Carolina Public Service Authority for the constructed Santee-Cooper Project No. 199 located on the Santee and Cooper Rivers in Berkeley, Calhoun, Clarendon, Orangeburg and Sumter Counties, South Carolina.

This statement has been circulated for comments to Federal, State and local agencies, has been placed in the public files of the Commission, and is available for public inspection both in the Commission's Office of Public Information, Room 1000, 825 North Capitol Street, NE., Washington, D.C. 20426 and at its Atlanta Regional Office located at 730 Peachtree Building, Room 500, Atlanta, Georgia 30308. Copies may be ordered from the Commission's Office of Public Information, Washington, D.C. 20426.

The project consists of 110,600-acre Lake Marion impounded by Santee Dam on the Santee River, a 7.5-mile long Diversion Canal connecting Lake Marion to Lake Moultrie, an adjacent 60,400-acre reservoir impounded by Pinopolis Dam and several dikes, and a 4.5-mile long Tailrace Canal discharging into the Cooper River. The project includes two hydroelectric generating facilities with a total capacity of 134,535 kW. Outdoor recreational facilities have been developed by various public and private entities under lease from the Applicant, and by Applicant in existing residential-recreational subdivisions. Several project areas are managed by Federal and State wildlife agencies. The Applicant proposes no major alteration of project works in its application for new license. However, the Applicant has filed for Commission approval applications for construction of three residential-recreational developments on project lands: Pintail Island, Mill Creek, and Clarendon Shores; and an application on behalf of the Santee Public Service District to discharge treated sewage effluent into project waters. This statement discusses environmental impacts of all of the above named filings.

Any person who wishes to do so may file comments on the staff draft statement for the Commission's consideration. All comments must be filed on or before November 8, 1976.

Any person who wishes to present evidence regarding environmental matters in this proceeding must file with the Commission a petition to intervene pursuant to Section 1.8 of the Commission's Rules of Practice and Procedure. Petitioners must also file timely comments on the draft statement in accordance with § 2.81(c) of Order No. 415-C.

All petitions to intervene must be filed on or before November 8, 1976.

KENNETH F. PLUMB,
Secretary.

[FR Doc.76-28188 Filed 9-24-76;8:45 am]

[Docket No. CI73-681]

TEXAS GAS EXPLORATION CORP.

Order Denying Motion To Approve Revised Settlement

SEPTEMBER 20, 1976.

On July 23, 1976 Texas Gas Exploration Corporation (TGE) filed a motion for consideration of a settlement of litigation presently pending in the Circuit Court of Appeals for the District of Columbia, Texas Gas Exploration Corporation v. Federal Power Commission, No. 75-1024. This proposal represents the second time TGE has attempted to settle this case out of court. In its previous try, filed April 6, 1976, the TGE offer was rejected by Commission order dated May 14, 1976. Notice of the revised offer of settlement was issued on July 29, 1976 and approved in the FEDERAL REGISTER on August 5, 1976 at 41 FR 32793. No comments were filed by any party.

TGE received a certificate under the optional procedure pursuant to Opinion Nos. 706 and 706-A,[1] which also denied TGE's request to withdraw its optional certificate filing in favor of accepting the national rate set for new gas.[2] In the Commission opinions and the order denying the settlement offer the Commission detailed the reasons for refusing to allow TGE to withdraw from its optional procedure certificate, the most important of which was that the transfer to the national rate would result in the consumer paying considerably more for the volumes certificated at the optional procedure rate that originally had been sought by TGE.

It was also noted in July 14, 1976, order that the proposed refund by TGE of the "benefits" received from the optional certificate procedure, meaning the amount collected above the area rate prior to certification, when offset by TGE's assertion of its right to the national rate, resulted in no actual repayment to the consumer. In its revised settlement TGE has offered to, in fact, refund these "benefits", a total of $350,000, inclusive of interest.[3] TGE is also waiving its self-asserted right to the national rate for the period of July 19, 1974 until thirty days after the approval of the proposed settlement. TGE computes this waiver to be worth $400,000, making the total amount TGE will forego under the settlement $750,000.

The Commission has twice attempted to convince TGE that the paramount concern in this proceeding is the cost to the consumer. The revised TGE settlement provides for an actual refund of $350,000 and the future collection of the applicable national rate rather than the 45 cents per Mcf plus .5 cents per Mcf annual escalation approved in the optional procedure proceeding. The currently effective national rate for the TGE vintage gas is set in Opinion No. 770[4] at $1.01 per Mcf.

The remaining contract term of this sale is sixteen years. If it is assumed that the present level of deliveries, 5,500 Mcf per day, continues for only one-half that period, eight years, then the remaining reserves are 16,060,000 Mcf. Also, if the average optional procedure certificate rate is computed for the same eight year period the result is an average contract rate of 50.5 cents per Mcf, which is also the difference between the contract and nationwide rates (101¢—50.5¢=50.5¢). Multiplying the 50.5 cents per Mcf differential times the remaining volume of 16,060,000 Mcf equals $8,110,300. It is not surprising then that TGE would be willing to refund $350,000 in order to receive what is conservatively estimated to be an eight million dollar bonus.

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[1] 52 FPC 767 (September 17, 1974); 52 FPC 1312 (November 13, 1974).

[2] At that time the applicable nationwide rate was promulgated in Opinion No. 699, 51 FPC 2212 (1974).

[3] This figure is computed, according to TGE, on the actual daily deliveries of 5,500 Mcf between October 11, 1973 and July 19, 1974. In its May 14, 1976 order the Commission had used a daily delivery figure of 8,750 Mcf pursuant to Opinion No. 706, 52 FPC 767, 768 (1974).

[4] Opinion No. 770, Opinion And Order Prescribing Uniform National Rate For Sales Of Natural Gas Dedicated To Interstate Commerce On Or After January 1, 1973, For The Period January 1, 1975 To December 31, 1976, Docket No. RM75-14, issued July 27, 1976.

In addition to the company's financial argument, TGE also proffers certain other points that allegedly support the adoption of the settlement. These contentions are the same or similar to those expressed in TGE's two previous attempts to obtain the higher national rate, but none of these pleas offer any explanation of what advantages the consumer receives by paying at least eight million dollars in excess of the amount requested by TGE in its certificate application and found to be just and reasonable by the Commission in Opinion Nos. 706 and 706-A.

The revised settlement offer presents no legal or equitable reasons sufficient to warrant any change or modification of the Commission's action in Opinion Nos. 706 and 706-A. Accordingly, TGE's motion to approve the revised settlement will be denied.

This proposal by TGE represents the third time that the company has attempted to convince the Commission to permit TGE to withdraw from its certificated rate in favor of the higher national rate. That issue is presently before the District of Columbia Circuit, briefs have been filed, and all that remains is the argument. We believe that the Court is the proper forum for TGE to press its claim. Therefore, since the Commission is willing to rely on the legality of its Opinion Nos. 706 and 706-A, and since we have already entertained two unsuccessful TGE settlement proposals, any further action by any party in this proceeding should proceed before the Court.

The Commission finds: It is not in the public interest to approve the revised settlement agreement proposed by TGE.

The Commission orders: The motion to approve the revised settlement submitted by TGE for the approval of the Commission is denied.

By the Commission.

Kenneth F. Plumb,
Secretary.

[FR Doc.76-28180 Filed 9-24-76;8:45 am]

[Project No. 459]

UNION ELECTRIC CO.

Application for Approval of Use of Project Lands

September 20, 1976.

Public notice is hereby given that an application was filed on June 30, 1976, under the Federal Power Act, 16 U.S.C. 791a-825r, by Union Electric Company (Correspondence to: Carl H. Hendrickson, Esq., Union Electric Company, P.O. Box 149, St. Louis, Missouri 63166) for Commission approval of a lease of certain lands of the Osage Project, FPC No. 459, to Dredging, Inc. d/b/a Scott's Concrete. The subject lands are located in Camden County, Missouri, on the Little Niangua River.

Applicant proposes to lease a portion of partially-submerged project lands to Dredging, Inc. to be used for the extraction of sand and gravel. About 20,000 cubic yards of such material would be removed annually from the project reservoir and used in the production of concrete.

A previous lease of project lands to Dredging, Inc. for these purposes expired on February 24, 1976, the date of expiration of the license for Project No. 459. An application by Union Electric Company for a new license for the Osage Project has been filed. Pending Commission action on the application for a new license, the project is being operated under an annual license subject to the terms and conditions of the original license. The proposed new lease to Dredging, Inc. would be for a period of three years or until termination of Applicant's authority under the terms of the initial license for Project No. 459, whichever is earlier.

Any person desiring to be heard or to make any protest with reference to said application should, on or before November 4, 1976, file with the Federal Power Commission, Washington, D.C. 20426, a petition to intervene or a protest in accordance with the requirements of the Commission's Rules of Practice and Procedure, 18 C.F.R. 1.8 or 1.10 (1976). All protests filed with the Commission will be considered by it in determining the appropriate action to be taken, but will not serve to make the protestants parties to the proceeding. Any person wishing to become a party in any hearing therein must file a petition to intervene in accordance with the Commission's Rules.

Take further notice that, pursuant to the authority contained in and conferred upon the Federal Power Commission by Sections 308 and 309 of the Federal Power Act, 16 U.S.C. 825g and 825h, and the Commission's Rules of Practice and Procedure, specifically § 1.32 (b), 18 C.F.R. 1.32(b) (1976), a hearing on this application may be held before the Commission without further notice if no issue of substance is raised by any request to be heard, protest, or petition filed subsequent to this notice within the time required herein and if Applicant requests that the shortened procedure of § 1.32(b) be used. If an issue of substance is so raised or Applicant fails to request the shortened procedure, further notice of hearing will be given.

Under the shortened procedure herein provided for, unless otherwise advised, it will not be necessary for Applicant to appear or be represented at the hearing before the Commission.

The application is on file with the Commission and is available for public inspection.

Lois D. Cashell,
Acting Secretary.

[FR Doc.76-28175 Filed 9-24-76;8:45 am]

[Docket No. ID-1794]

WILLIAM B. ELLIS

Application

September 21, 1976.

Take notice that on September 13, 1976, William B. Ellis (Applicant) filed an application with the Federal Power Commission. Pursuant to Section 305(b) of the Federal Power Act. Applicant seeks authority to hold the following positions:

Director, Maine Yankee Atomic Power Company, Public Utility.
Director, Vermont Yankee Nuclear Power Corporation, Public Utility.
Director, Yankee Atomic Electric Company, Public Utility.

Maine Yankee Atomic Power Company a Maine corporation owning and operating a nuclear electric generating plant at Wiscasset, Maine.

Vermont Yankee Nuclear Power Corporation a Vermont corporation owning and operating a nuclear electric generating plant at Vernon, Vermont.

Yankee Atomic Electric Company a Massachusetts corporation owning and operating a nuclear electric generating plant at Rowe, Massachusetts.

Any person desiring to be heard or to make any protest with reference to said application should on or before October 14, 1976, file with the Federal Power Commission, Washington, D.C. 20426, petitions to intervene or protests in accordance with the requirements of the Commission's Rules of Practice and Procedure (18 CFR 1.8 or 1.10). All protests filed with the Commission will be considered by it in determining the appropriate action to be taken but will not serve to make the protestants parties to the proceeding. Persons wishing to become parties to a proceeding or to participate as a party in any hearing therein must file petitions to intervene in accordance with the Commission's Rules. The application is on file with the Commission and is available for public inspection.

Lois D. Cashell,
Acting Secretary.

[FR Doc.76-28183 Filed 9-24-76;8:45 am]

FEDERAL PREVAILING RATE ADVISORY COMMITTEE

ANNUAL REPORT

Availability

Pursuant to the provisions of Section 10(d) of the Federal Advisory Committee (Pub. L. 92-463) and Circular A-63, revised, of the Office of Management and Budget, notice is hereby given of the availability of the Federal Prevailing Rate Advisory Committee 1975 Annual Report.

The Report summarizes the activities and recommendations of the Committee to the U.S. Civil Service Commission, in dealing with Federal prevailing rate pay systems for craft, trade, and labor employees paid from either appropriated or nonappropriated funds during calendar year 1975.

Single copies of the Report will be furnished without charge. Multiple copies can be furnished at a fair and equitable fee, upon written request addressed to the Chairman, Federal Prevailing Rate Advisory Committee, Room 1338, 1900 E Street, NW., Washington, D.C. 20415.

The Report may be otherwise examined and/or copied at the above office and address, between the hours of 8:15 a.m. and 4:45 p.m., Monday through Friday, legal holidays excluded.

Dated: September 21, 1976.

DAVID T. ROADLEY,
Chairman, Federal Prevailing Rate Advisory Committee.

[FR Doc.76-28165 Filed 9-24-76;8:45 am]

GENERAL ACCOUNTING OFFICE

REGULATORY REPORTS REVIEW

Receipt of Report Proposals

The following request for clearance of reports intended for use in collecting information from the public was received by the Regulatory Reports Review Staff, GAO, on September 20, 1976. See 44 U.S.C. 3512 (c) and (d). The purpose of publishing this notice in the FEDERAL REGISTER is to inform the public of such receipt.

The notice includes the title of each request received; the name of the agency sponsoring the proposed collection of information; the agency form number, if applicable; and the frequency with which the information is proposed to be collected.

Written comments on the proposed FEA requests are invited from all interested persons, organizations, public interest groups, and affected businesses. Because of the limited amount of time GAO has to review the proposed requests comments (in triplicate) must be received on or before October 12, 1976, and should be addressed to Mr. John M. Lovelady, Acting Assistant Director, Regulatory Reports Review, Room 5216, 425 I Street, NW, Washington, DC 20548.

Further information may be obtained from Patsy J. Stuart of the Regulatory Reports Review Staff, 202-376-5425.

FEDERAL ENERGY ADMINISTRATION

FEA requests an extension no change clearance of Owners of Stored Products Report, Form FEA-101A. This form is filed on occasion by the owners of stored product with the owners of storage facilities. The information is collected according to 10 CFR 211.87(a) and 211.97(a) issued pursuant to Pub. L. 93-275 and Pub. L. 94-163 as amended by the Energy Conservation and Production Act of 1976 Pub. L. 94-385. The information is used to document the classification of owners of stored product which in turn is used by FEA to monitor inventories of stored product. FEA estimates the number of respondents to be approximately 1,000 and the yearly reporting burden to be ½ hour per respondent.

FEA requests an extension no change clearance of Old Oil Entitlements Program Entitlement Transaction Report, Form FEA-P103-M-0. This is a monthly report required to be filed by petroleum refiners. This information is collected according to 10 CFR 211.66(i) and 211.67 issued pursuant to the Federal Energy Administration Act of 1973 (Pub. L. 93-275) and the Energy Policy and Conservation Act of 1975 (Pub. L. 94-163) as amended by the Energy Conservation and Production Act of 1976 (Pub. L. 94-385). The FEA uses the information for the Domestic Crude Oil Entitlements Program. FEA estimates the number of potential respondents to be 434 and the estimated monthly reporting burden to be 6 hours per respondent.

FEA requests an extension no change clearance of Complainant's Report, Form FEA-P105-S-O. This voluntary report is filed on occasion by any person or firm who believes actions of another are not in compliance with petroleum regulations. This report is filed with the appropriate FEA Regional Office for determination of proper action. FEA estimates the number of respondents to be approximately 20,000 and the yearly reporting burden to be one hour per respondent.

FEA requests an extension no change clearance of Application to State for Petroleum Product Hardship or Emergency Relief, Form FEA-P106-S-O. This form is to be filed by wholesale purchaser-consumers and end-users to obtain temporary relief from undue hardship or emergency conditions. Wholesale purchaser-resellers may also use the form to obtain product to supply such wholesale-purchaser consumers and end-users. The FEA-P106-S-O is mandatory under 10 CFR 211.17(a) as amended by the Energy Policy and Conservation Act of 1975 (Pub. L. 94-163) and the Energy Conservation and Production Act of 1976 (Pub. L. 94-385). FEA estimates the number of respondents to be approximately 15,000 and the reporting burden to be one hour per response.

FEA requests an extension no change clearance of State Office of Petroleum Allocation State Action on Application for Hardship or Emergency Relief, Form FEA-P107-S-O. This report is an action issued in response to an application Form FEA-P106-S-O and is filled out by the State Office of Petroleum Allocation. FEA estimates the number of respondents to be approximately 15,000 for 50 state offices and the estimated reporting burden to be one hour per response.

FEA requests an extension no change clearance of Wholesale Purchaser-Reseller's Certification of Distribution to Purchasers for Uses Under an Allocation Level not subject to an Allocation Fraction, Form FEA-P108-S-O. This report is filed periodically by wholesale purchaser-resellers to their suppliers and is a certification that allocated products for first priority uses have not been diverted to any other use. This information is collected according to 10 CFR 211.12(d)(5) issued pursuant to the Federal Energy Administration Act of 1974 (Pub. L. 93-275) and the Energy Policy and Conservation Act of 1975 (Pub. L. 94-163) and amended by the Energy Conservation Act of 1976 (Pub. L. 94-385). FEA estimates the number of respondents to be approximately 27,000 and the monthly reporting burden to be 2 hours.

FEA requests an extension no change clearance of Transfer Pricing Report, Form FEA-F701-M-O. This is a monthly report required to be filed by petroleum refiners who import at least 500,000 barrels of crude during the month or who import from affiliated entities during the month. This information is collected according to 10 CFR 212.84 issued pursuant to Pub. L. 93-275 and Pub. L. 94-163 as amended by the Energy Conservation and Production Act of 1976, Pub. L. 94-385. The FEA uses the information to monitor certain cost and price movements of crude oil in the U.S. and the world petroleum industry. FEA estimates the number of respondents to be 35 and the monthly reporting burden to be 40 hours.

NORMAN F. HEYL,
Regulatory Reports Review Officer.

[FR Doc.76-28201 Filed 9-24-76;8:45 am]

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

[Notice 76-80]

JAPAN ENGINEERING DEVELOPMENT CO.

Intent To Grant Foreign Exclusive Patent License

In accordance with the NASA Foreign Licensing Regulations, 14 CFR 1245.405(e), the National Aeronautics and Space Administration announces its intention to grant to the Japan Engineering Development Company, Tokyo, Japan, an exclusive patent license in Japan for the four NASA owned inventions covered by the Japanese counterparts of: (1) U.S. Application for Patent Serial No. 665,364 for "A Method for Fabricating Graphite/Epoxy Laminate from Ultrathin Laminae", filed by NASA on March 10, 1976; (2) U.S. Application for Patent Serial No. 402,866 for "Protection of Moisture Sensitive Optical Components", filed by NASA on October 2, 1973; (3) U.S. Patent No. 3,920,413 for "A Panel for Selectively Absorbing Solar Thermal Energy and Method", issued to NASA on November 18, 1975; and (4) U.S. Application for Patent Serial No. 625,733 for "Improved Bimetallic Junctions", filed by NASA on October 24, 1975. Copies of the above U.S. Patent Applications can be purchased from the National Technical Information Service, Springfield, Virginia, 22161, at a cost of $3.75 a copy. Interested Parties should submit written inquiries or comments within 60 days to the Assistant General Counsel for Patent Matters, Code GP, National Aeronautics and Space Administration, Washington, D.C. 20546.

Dated: September 16, 1976.

S. NEIL HOSENBALL,
General Counsel.

[FR Doc.76-28142 Filed 9-24-76;8:45 am]

[Notice 76-79]

LICENSING MANAGEMENT CORP.

Intent To Grant Foreign Exclusive Patent License

In accordance with the NASA Foreign Licensing Regulations, 14 C.F.R. 1245.405(e), the National Aeronautics and Space Administration announces its intention to grant to the Licensing Management Corporation, New York, New York, (1) an exclusive patent license in Canada, France, Japan, Great Britain, and West Germany for the NASA owned invention covered by the foreign counterparts of U.S. Patent No. 3,632,242 for "Process and Apparatus for Making Diamonds", issued to NASA on January 4, 1972, and (2) an exclusive patent license in the U.S.S.R. for the NASA owned invention covered by the foreign counterpart of U.S. Patent Application Serial No. 583,485 for "Sustained Arc Ignition System", filed by NASA on June 3, 1975. Copies of U.S. Patent No. 3,632,242 can be purchased from the U.S. Patent Office, Department of Commerce, Washington, D.C., 20231 for $.50 a copy. Copies of U.S. Patent Application No. 583,485 can be purchased from the National Technical Information Service, Springfield, Virginia, 22150, at a cost of $3.50 a copy. Interested parties should submit written inquiries or comments within 60 days to the Assistant General Counsel for Patent Matters, Code GP, National Aeronautics and Space Administration, Washington, D.C., 20546.

Dated: September 16, 1976.

S. NEIL HOSENBALL,
General Counsel.

[FR Doc.76-28141 Filed 9-24-76;8:45 am]

NATIONAL FOUNDATION ON THE ARTS AND THE HUMANITIES

DANCE ADVISORY PANEL

Meeting

Pursuant to section 10(a)(2) of the Federal Advisory Committee Act (Pub. L. 92-463), notice is hereby given that a meeting of the Dance Advisory Panel to the National Endowment for the Arts will be held on October 15, 1976 from 9:00 a.m.-5:45 p.m. and on October 16, 1976 from 9:30 a.m.-5:30 p.m. in Charleston, South Carolina. On October 15, the meeting will be held in the Council Chamber Room of City Hall; on October 16, in the Dock Street Theatre, Queen and Church Streets.

A portion of this meeting will be open to the public on October 16 from 9:30 a.m.-3:15 p.m. on a space available basis. Accommodations are limited. During the open session there will be a policy discussion concerning Dance in the Southeast.

The remaining sessions of this meeting on October 15 from 9:00 a.m.-5:45 p.m. and on October 16 from 3:15 p.m.-5:30 p.m. are for the purpose of Panel review, discussion, evaluation, and recommendation on applications for financial assistance under the National Foundation on the Arts and the Humanities Act of 1965, as amended, including discussion of information given in confidence to the agency by grant applicants. In accordance with the determination of the Chairman published in the FEDERAL REGISTER of June 16, 1975, these sessions, which involve matters exempt from the requirements of public disclosure under the provisions of the Freedom of Information Act (5 U.S.C. 552 (b), (4), (5), and (6)) will not be open to the public.

Further information with reference to this meeting can be obtained from Mr. Robert M. Sims, Advisory Committee Management Officer, National Endowment for the Arts, Washington, D.C. 20506, or call (202) 634-6377.

ROBERT M. SIMS,
Administrative Officer, National Endowment for the Arts, National Foundation on the Arts and the Humanities.

[FR Doc.76-28153 Filed 9-24-76;8:45 am]

EXPANSION ARTS ADVISORY PANEL

Meeting

Pursuant to section 10(a)(2) of the Federal Advisory Committee Act (Pub. L. 92-463), notice is hereby given that a meeting of the Expansion Arts Advisory Panel to the National Council on the Arts will be held on October 13, 1976 from 9:00 a.m.-2:45 p.m., on October 14, 1976 from 9:00 a.m.-4:30 p.m., and on October 15, 1976 from 9:00 a.m.-2:00 p.m., Hotel Sonesta, 5 Constitution Plaza, Hartford, Connecticut.

A portion of this meeting will be open to the public on October 13 from 9:00 a.m.-12:30 p.m., on October 14 from 9:00 a.m.-4:30 p.m. and on October 15 from 9:00 a.m.-2:00 p.m. on a space available basis. Accommodations are limited. On October 13 the agenda will include: (1) Minutes of the last meeting, (2) Report on the August National Council Mtg., and (3) Guidelines. On October 14 the agenda will include: (1) Long Range Planning, 1979-1981 (2) Program Evaluation (3) Continued Funding, and (4) Research Needs. On October 15 there will be a discussion on Consortiums Development and Institutional Development.

The remaining sessions of this meeting on October 13 from 12:30 p.m.-2:45 p.m. are for the purpose of Panel review, discussion, evaluation, and recommendation on applications for financial assistance under the National Foundation on the Arts and the Humanities Act of 1965, as amended, including discussion of information given in confidence to the agency by grant applicants. In accordance with the determination of the Chairman published in the FEDERAL REGISTER of June 16, 1975, these sessions, which involve matters exempt from the requirements of public disclosure under the provisions of the Freedom of Information Act (5 U.S.C. 552(b), (4), (5), and (6)) will not be open to the public.

Further information with reference to this meeting can be obtained from Mr. Robert M. Sims, Advisory Committee Management Officer, National Endowment for the Arts, Washington, D.C. 20506, or call (202) 634-6377.

ROBERT M. SIMS,
Administrative Officer, National Endowment for the Arts, National Foundation on the Arts and the Humanities.

[FR Doc.76-28154 Filed 9-24-76;8:45 am]

NUCLEAR REGULATORY COMMISSION

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

Procedures Subcommittee Meeting

In accordance with the purposes of Sections 29 and 182b. of the Atomic Energy Act (42 U.S.C. 2039, 2232b.), the Advisory Committee on Reactor Safeguards' Procedures Subcommittee will hold a meeting at 4:00 p.m. on October 13, 1976, in Room 1010, 1717 H Street, NW., Washington, D.C. This meeting will be closed to the public.

The Subcommittee will meet in closed Executive Session to discuss proposed changes in Committee policy and practices including conduct of ACRS meetings, preparation of ACRS reports, and communication between the ACRS and NRC Staff. Individual members will exchange and discuss their personal opinions and recommendations regarding proposed changes in these procedures leading to a final recommendation by the Subcommittee to the ACRS.

I have determined in accordance with Subsection 10(d) of Pub. L. 92-463 that it is necessary to hold this meeting in closed session, as noted, to protect the free exchange of opinion during the Committee's deliberative process (5 U.S.C. 552(b)(5)). Separation of factual information from the individual advice, opinion, or recommendations of ACRS members is not considered practical.

Dated: September 20, 1976.

JOHN C. HOYLE,
Advisory Committee Management Officer.

[FR Doc.76-28055 Filed 9-25-76;8:45 am]

[Docket No. STN 50-484]

NORTHERN STATES POWER CO. (TYRONE ENERGY PARK, UNIT 1)

Order of Proceeding

For the convenience of members of the public wishing to make limited appearances in this proceeding, the Board will conduct an evening session beginning at 7:30 p.m. on October 6, 1976 at the County Board Room, Eau Claire County Courthouse, Second Floor, 721 Oxford Avenue, Eau Claire, Wisconsin 54701. This is an additional session. As previously announced, the Board will receive statements from the public at the regularly scheduled session, beginning at

10:00 a.m. September 28, 1976 in the County Board Room.

Dated at Bethesda, Md., this 20th day of September 1976.

It is so ordered.

For The Atomic Safety and Licensing Board.

IVAN W. SMITH,
Chairman.

[FR Doc.76-28056 Filed 9-24-76;8:45 am]

[Docket Nos. 50-440 and 50-441]

CLEVELAND ELECTRIC ILLUMINATING CO., PERRY NUCLEAR POWER PLANT, UNITS 1 AND 2

Issuance of Revision to Limited Work Authorization

Pursuant to the provisions of 10 CFR 50.10(e) of the Nuclear Regulatory Commission's (Commission) regulations, the Commission has authorized the Cleveland Electric Illuminating Company to conduct certain site activities in connection with the Perry Nuclear Power Plant, Units 1 and 2, prior to a decision regarding the issuance of construction permits. Notices of the Limited Work Authorizations were published in the FEDERAL REGISTER on October 29, 1974 (39 FR 38125), January 9, 1976 (41 FR 1655), and May 20, 1976 (41 FR 20742).

Since that time, the Atomic Safety and Licensing Board has determined that additional activities may be authorized under the Limited Work Authorization. The additional activities that are authorized are within the scope of those authorized by 10 CFR 50.10(e)(3) and include the installation of the steel and concrete structural foundations below the plant grade level including any subsurface preparation for structures, systems and components in the reactor building, control building, auxiliary building, fuel handling/intermediate building, radwaste building, steam tunnel building, and the emergency service water pumphouse, and in the vertical shaft portions of the intake and discharge tunnels below the service water and the emergency service water pumphouses. No activities related to the off-gas building are authorized.

Any activities undertaken pursuant to this authorization are entirely at the risk of the Cleveland Electric Illuminating Company and the grant of the authorization has no bearing on the issuance of construction permits with respect to the requirements of the Atomic Energy Act of 1954, as amended, and rules, regulations, or orders of the Commission promulgated pursuant thereto.

A Supplemental Partial Initial Decision on matters relating to the National Environmental Policy Act and site suitability and unresolved safety issues was issued by the Atomic Safety and Licensing Board in the above captioned proceeding on September 10, 1976. A copy of (1) the Atomic Safety and Licensing Board's Orders of October 20, 1974, December 31, 1975, May 10, 1976, and September 10, 1976; (2) the applicant's Preliminary Safety Analysis Report and amendments thereto; (3) the applicant's Environmental Report and amendments thereto; (4) the staff's Final Environmental Statement dated April 1974; and (5) the Commission's letters of authorization dated October 21, 1974, December 31, 1975, May 12, 1976, and September 17, 1976, are available for public inspection at the Commission's Public Document Room at 1717 H Street, NW., Washington, D.C., and the Perry Public Library, 3753 Main Street, Perry, Ohio.

Dated at Rockville, Md., this 20th day of September, 1976.

For The Nuclear Regulatory Commission.

WM. H. REGAN, Jr.,
Chief, Environmental Projects Branch 3, Division of Site Safety and Environmental Analysis.

[FR Doc.76-28058 Filed 9-24-76;8:45 am]

[Docket Nos. 50-254 and 50-265]

COMMONWEALTH EDISON CO. AND IOWA-ILLINOIS GAS AND ELECTRIC CO.

Issuance of Amendments to Facility Operating Licenses and Negative Declaration

The U.S. Nuclear Regulatory Commission (the Commission) has issued Amendment Nos. 31 and 30 to Facility Operating License Nos. DPR-29 and DPR-30, issued to Commonwealth Edison Company (acting for itself and on behalf of the Iowa-Illinois Gas and Electric Company) (the licensees), which revised Technical Specifications for operation of the Quad Cities Station Unit Nos. 1 and 2 (the facilities) located in Rock Island County, Illinois. The amendments are effective as of their date of issuance.

The amendments revise the effluent release limits by refining the previously used calculational model to reflect the staff's current model and by adding new limiting conditions for operation which reduce the allowable annual and quarterly iodine releases to quantities that are as low as reasonably achievable.

The application for the amendments complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendments. Prior public notice of these amendments was not required since the amendments do not involve a significant hazards consideration.

The Commission has prepared an environmental impact appraisal for the revised Technical Specifications and has concluded that an environmental impact statement for this particular action is not warranted because there will be no significant environmental impact attributable to the proposed action.

For further details with respect to this action, see (1) the application for amendments dated August 6, 1976, and a supplement thereto dated August 26, 1976, (2) Amendment Nos. 31 and 30 to License Nos. DPR-29 and DPR-30, (3) the Commission's related Safety Evaluation, and (4) the Commission's Environmental Impact Appraisal. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, Northwest, Washington, D.C. and at the Moline Public Library, 504 17th Street, Moline, Illinois 60625.

A copy of items (2), (3) and (4) may be obtained upon request addressed to the U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Division of Operating Reactors.

Dated at Bethesda, Md., this 13th day of September 1976.

For The Nuclear Regulatory Commission.

MARSHALL GROTENHUIS,
Acting Chief, Operating Reactors Branch No. 2, Division of Operating Reactors.

[FR Doc.76-28059 Filed 9-24-76;8:45 am]

[Dockets Nos. 50-269, 50-270 and 50-287]

DUKE POWER CO.

Issuance of Amendments to Facility Operating Licenses and Negative Declaration

The U.S. Nuclear Regulatory Commission (the Commission) has issued Amendments Nos. 32, 32 and 29 to Facility Operating Licenses Nos. DPR-38, DPR-47 and DPR-55, respectively, issued to Duke Power Company which revised the licenses for operation of the Oconee Nuclear Station, Units Nos. 1, 2 and 3, located in Oconee County, South Carolina. The amendments are effective as of the date of issuance.

The amendments require that spent fuel assemblies stored in designated areas of the Oconee spent fuel pools be decayed a minimum of 43 days prior to spent fuel cask movement.

The application for the amendments complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commissions' rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendments. Prior public notice of the amendments was not required since the amendments do not involve a significant hazards consideration.

The Commission has prepared an environmental impact appraisal for the revised Technical Specifications and has concluded that an environmental impact statement for this particular action is not warranted because the Commission has determined that this is not a major action significantly affecting the quality of the human environment, and that a negative declaration to this effect is appropriate.

For further details with respect to this action, see (1) the application for amendment dated August 20, 1976, (2) Amendments Nos. 32, 32 and 29 to License Nos. DPR–38, DPR–47 and DPR–55, respectively and (3) the Commission's related Safety Evaluation and Environmental Impact Appraisal. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, NW., Washington, D.C. and at the Oconee County Library, 201 South Spring Street, Walhalla, South Carolina 29691. A copy of items (2) and (3) may be obtained upon request addressed to the U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Division of Operating Reactors.

Dated at Bethesda, Md., this 10th day of September 1976.

For the Nuclear Regulatory Commission.

A. Schwencer,
Chief, Operating Reactors Branch No. 1, Division of Operating Reactors.

[FR Doc.76–28060 Filed 9–24–76;8:45 am]

[Docket No. 50–320]

METROPOLITAN EDISON CO., JERSEY CENTRAL POWER & LIGHT CO., AND PENNSYLVANIA ELECTRIC CO.

Availability of Safety Evaluation Report for Three Mile Island Nuclear Station, Unit 2

Notice is hereby given that the Office of Nuclear Reactor Regulation has published its Safety Evaluation Report on the proposed operation of the Three Mile Island Nuclear Station, Unit 2, to be located in Dauphin County, Pennsylvania. Notice of receipt of application by Metropolitan Edison Company, et al, to operate the Three Mile Island Nuclear Station, Unit 2, was published in the Federal Register on May 28, 1974 (39 FR 18497).

The report is being referred to the Advisory Committee on Reactor Safeguards and is being made available at the Commission's Public Document Room, 1717 H Street, NW., Washington, D.C., and at the State Library of Pennsylvania, Harrisburg, Pennsylvania 17126, for inspection and copying. The report (Document No. NUREG–0107) can also be purchased, at current rates, from the National Technical Information Service, Springfield, Virginia 22161.

Dated at Bethesda, Md., this 17th day of September 1976.

For the Nuclear Regulatory Commission.

S. A. Varga,
Chief, Light Water Reactors Branch No. 4, Division of Project Management.

[FR Doc.76–28061 Filed 9–24–76;8:45 am]

[Docket No. 50–289]

METROPOLITAN EDISON CO., JERSEY CENTRAL POWER AND LIGHT CO., AND PENNSYLVANIA ELECTRIC CO.

Issuance of Amendment to Facility Operating License

The U.S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 21 to Facility Operating License No. DPR–50, issued to Metropolitan Edison Company, Jersey Central Power and Light Company, and Pennsylvania Electric Company (the licensees), which revised Technical Specifications for operation of the Three Mile Island Nuclear Station, Unit No. 1 (the facility) located in Dauphin County, Pennsylvania. The amendment is effective as of its date of issuance.

The amendment deletes a requirement for locking open a nonexistent manual valve on the discharge of the Borated Water Storage Tank.

The application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment. Prior public notice of this amendment was not required since the amendment does not involve a significant hazards consideration.

The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant to 10 CFR 51.5(d)(4) an environmental impact statement, negative declaration or environmental impact appraisal need not be prepared in connection with issuance of this amendment.

For further details with respect to this action, see (1) the application for amendment dated June 17, 1976, (2) Amendment No. 21 to License No. DPR–50, and (3) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, NW., Washington, D.C. and at the Government Publications Section, State Library of Pennsylvania, Box 1601 (Education Building), Harrisburg, Pennsylvania.

A copy of items (2) and (3) may be obtained upon request addressed to the U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Division of Operating Reactors.

Dated at Bethesda, Md., this 15th day of September 1976.

For the Nuclear Regulatory Commission.

Robert W. Reid,
Chief, Operating Reactors Branch No. 4, Division of Operating Reactors.

[FR Doc.76–28062 Filed 9–24–76;8:45 am]

[Dockets Nos. 50–280 and 50–281]

VIRGINIA ELECTRIC & POWER CO.

Issuance of Amendments to Facility Operating Licenses

The U.S. Nuclear Regulatory Commission (the Commission) has issued Amendments No. 25 to Facility Operating Licenses Nos. DPR–32 and DPR–37 issued to Virginia Electric & Power Company, which revised Technical Specifications for operation of the Surry Power Station Units Nos. 1 and 2, located in Surry County, Virginia. The amendments are effective as of the date of issuance.

The amendments incorporate provisions into the Technical Specifications related to limiting conditions for operation and surveillance of shock suppressors (snubbers).

The application for the amendments complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendments. Prior public notice of these amendments was not required since the amendments do not involve a significant hazards consideration.

The Commission has determined that the issuance of these amendments will not result in any significant environmental impact and that pursuant to 10 CFR 51.5(d)(4) an environmental impact statement, negative declaration or environmental impact appraisal need not be prepared in connection with issuance of these amendments.

For further details with respect to this action, see (1) the application for amendments dated March 22, 1976, (2) Amendments No. 25 to Licenses Nos. DPR–32 and DPR–37, and (3) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street NW., Washington, D.C. and at the Swem Library, College of William and Mary, Williamsburg, Virginia.

A copy of items (2) and (3) may be obtained upon request addressed to the U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Division of Operating Reactors.

Dated at Bethesda, Md., this 14th day of September 1976.

For the Nuclear Regulatory Commission.

Robert W. Reid,
Chief, Operating Reactors Branch No. 4, Division of Operating Reactors.

[FR Doc.76–28063; Filed 9–24–76;8:45 am]

[Dockets Nos. 50–280 and 50–281]

VIRGINIA ELECTRIC & POWER CO.

Issuance of Amendments to Facility Operating Licenses and Negative Declaration

The U.S. Nuclear Regulatory Commission (the Commission) has issued

Amendments No. 24 to Facility Operating Licenses Nos. DPR–32 and DPR–37 issued to Virginia Electric & Power Company (the licensee) for operation of the Surry Power Station, Units Nos. 1 and 2, located in Surry County, Virginia. The amendments are effective as of the date of issuance.

The amendments revise the gaseous effluent release Technical Specifications.

The application for the amendments complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendments. Prior public notice of these amendments was not required since the amendments do not involve a significant hazards consideration.

The Commission has prepared an environmental impact appraisal for the revised Technical Specifications and has concluded that an environmental impact statement for this particular action is not warranted because there will be no significant environmental impact attributable to the proposed action.

For further details with respect to this action, see (1) the application for amendments dated August 30, 1976, (2) Amendments No. 24 to Licenses Nos. DPR–32 and DPR–37, (3) The Commission's related Safety Evaluation, and (4) the Commission's Environmental Impact Appraisal. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, NW., Washington, D.C. and at the Swem Library, College of William and Mary, Williamsburg, Virginia.

A copy of items (2), (3), and (4) may be obtained upon request addressed to the U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Division of Operating Reactors.

Dated at Bethesda, Md., this 13th day of September 1976.

For the Nuclear Regulatory Commission.

ROBERT W. REID,
Chief Operating Reactors Branch No. 4, Division of Operating Reactors.

[FR Doc.76–28064 Filed 9–24–76;8:45 am]

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

Meeting

In accordance with the purposes of sections 29 and 182 b. of the Atomic Energy Act (42 U.S.C. 2039, 2232 b.), the Advisory Committee on Reactor Safeguards will hold a meeting on October 14–16, 1976, in Room 1046, 1717 H Street, NW., Washington, D.C.

The agenda for the subject meeting will be as follows:

THURSDAY, OCTOBER 14, 1976

8:30 a.m.–9:30 a.m.: Executive Session (Closed). The Committee will meet in closed executive session to exchange and discuss the personal opinions of individual members leading to the formulation of advice and recommendations regarding candidates for ACRS membership, procedures for conduct of ACRS meetings and proposed procedures for ACRS discussions with representatives of foreign governments. The Committee will also discuss the individual opinions and recommendations of ACRS members and consultants who may be present regarding proposed construction of the Marble Hill Nuclear Generating Station Units 1 & 2.

9:30 a.m.–12:30 p.m.: Marble Hill Nuclear Generating Station Units 1 & 2 (Open). The Committee will meet with representatives of the applicant and the NRC Staff to hear presentations and hold discussions regarding the request for a construction permit for this facility. Portions of this session will be closed if required to discuss proprietary information related to the design, construction or operation of these units. Closed portions will also be held if necessary to discuss security provisions for this facility and for Committee deliberative sessions.

1:30 p.m.–2:15 p.m.: Executive Session (Closed). The Committee will discuss the individual opinions and recommendations of ACRS members and consultants who may be present regarding proposed operation of the North Anna Nuclear Power Station Units 1 & 2.

2:15 p.m.–6:45 p.m.: North Anna Nuclear Power Station Units 1 and 2 (Open). The Committee will meet with representatives of the applicant and the NRC Staff to hear presentations and hold discussions regarding the request for operation of this facility. Portions of this session will be closed if required to discuss proprietary information related to the design, construction or operation of these units. Closed portions will also be held if necessary to discuss security provisions for this facility and for Committee deliberative sessions.

FRIDAY, OCTOBER 15, 1976

8:30 a.m.–9:15 a.m.: Executive Session (Closed). The Committee will meet with the Executive Director for Operations to discuss proposed changes to NRC Staff practices and policies regarding consideration of generic matters as they relate to specific facilities.

9:15 a.m.–11:15 a.m.: Meeting with NRC Staff (Open). The Committee will meet with members of the NRC Staff to hear presentations and to discuss reactor operating experience and licensing actions, use of aeromagnetic surveys of proposed reactor sites, resolution of generic items related to light-water reactors and the future schedule for ACRS activities.

11:15 a.m.–12:00 Noon: Executive Session (Closed). The Committee will meet in closed session to exchange and discuss the personal opinions and recommendations of individual members and consultants who may be present regarding proposed operation of the Three Mile Island Nuclear Station Unit 2.

1:00 p.m.–5:00 p.m.: Three Mile Island Nuclear Station Unit 2 (Open).—The Committee will meet with representatives of the applicant and the NRC Staff to hear presentations and hold discussions regarding the request for operation of this facility. Portions of this session will be closed if required to discuss proprietary information related to the design, construction or operation of this unit. Closed portions will also be held if necessary to discuss security provisions for this facility and for Committee deliberative sessions.

SATURDAY, OCTOBER 16, 1976

8:30 a.m.–4:00 p.m.: Executive Session (Closed).—The Committee will meet in closed executive session to exchange and discuss personal opinions and recommendations leading to the formulation of advice with respect to the items considered at this meeting. Proposed ACRS activities, candidates for appointment to the Committee, and reports on generic matters such as management of radioactive wastes and the Reactor Safety Study (WASH–1400) will also be discussed.

I have determined in accordance with subsection 10(d) of Pub. L. 92–463 that it is necessary to close portions of the meeting as noted above to protect proprietary data (5 U.S.C. 552(b)(4)), to protect the free exchange of opinion during the Committee's deliberative process (5 U.S.C. 552(b)(5)) and to protect information which, if released, would represent an undue invation of privacy (5 U.S.C. 552(b)(6)). These closed sessions will consist primarily of deliberative discussion among the Committee members leading to the formulation of advice and recommendations to the Nuclear Regulatory Commission. Separation of factual information from the individual advice, opinion or recommendations of ACRS members and consultants during this discussion is not considered practical.

Practical considerations may dictate alterations in the above agenda or schedule. The Chairman of the Committee is empowered to conduct the meeting in a manner that in his judgment will facilitate the orderly conduct of business, including provisions to carry over an incompleted open session from one day to the next.

With respect to public participation in the open portion of the meeting, the following requirements shall apply:

(a) Persons wishing to submit written statements regarding the agenda items may do so by providing a readily reproducible copy to the Committee at the beginning of the meeting. Comments should be limited to safety related areas within the Committee's purview. Persons desiring to mail written comments may do so by mailing a readily reproducible copy thereof in time for consideration at this meeting. Comments postmarked no later than October 6, 1976, to the Executive Director, Advisory Committee on Reactor Safeguards, Nuclear Regulatory Commission, Washington, DC 20555 will normally be received in time to be considered at this meeting. Background information concerning items to be considered at this meeting can be found in documents on file and available for public inspection at the Nuclear Regulatory Commission's Public Document Room, 1717 H Street, NW., Washington, D.C. 20555 and at the following Public Document Rooms:

NORTH ANNA NUCLEAR POWER STATION UNITS 1 & 2

1. Office of the County Administrator, Board of Supervisors, Louisa County Courthouse, Louisa, VA 23093.

2. Alderman Library, Manuscripts Department, University of Virginia, Charlottesville, VA 22901.

MARBLE HILL NUCLEAR GENERATING STATION UNITS 1 & 2

Madison-Jefferson County Public Library, 420 West Main Street, Madison, IN 47250.

THREE MILE ISLAND NUCLEAR STATION UNIT 2

Government Publications Section, State Library of Pennsylvania, Box 1601 (Education Building), Harrisburg, PA 17126.

(b) Those persons wishing to make oral statements regarding agenda items at the meeting should make a request to do so prior to the meeting, identifying the topics and desired presentation time so that appropriate arrangements can be made. The Committee will receive oral statements in safety related areas within the Committee's purview at an appropriate time chosen by the Chairman of the Committee.

(c) Further information regarding topics to be discussed, whether the meeting or portions of the meeting have been cancelled or rescheduled, the Chairman's ruling on requests for the opportunity to present oral statements, and the time allotted therefor, can be obtained by a prepaid telephone call on September 8, 1976, to the Office of the Executive Director of the Committee (Telephone: 202-634-1371) between 8:15 a.m. and 5:00 p.m., Eastern Time. It should be noted that the above schedule is tentative, based on the anticipated availability of related information, etc. It may be necessarly to reschedule items to accommodate required changes. The ACRS Executive Director will be prepared to describe these changes on October 13, 1976.

(d) Questions may be propounded only by members of the Committee and its consultants.

(e) The use of still, movie, and television cameras, the physical installation and presence of which will not interfere with the course of the meeting, will be permitted both before and after the meeting and during any recess. The use of such equipment will not, however, be allowed while the meeting is in session.

(f) Persons with agreements or orders permitting access to proprietary information other than safeguards information may attend portions of ACRS meetings where this material is being discussed upon confirmation that such agreements are effective and relate to the material being discussed.

The Executive Director of the ACRS should be informed of such an agreement at least 3 days prior to the meeting so that the agreement can be confirmed and a determination can be made regarding the applicability of this agreement to the material that will be discussed during the meeting. Minimum information provided should include information regarding the date of the agreement, the scope of material included in the agreement, the project of projects involved, and the names and titles of the persons signing the agreement. Additional information may be requested to identify the specific agreement involved. A copy of the executed agreement should be provided to the Executive Director at the beginning of the meeting.

(g) A copy of the transcript of the open portions of the meeting will be available for inspection during the following workday at the Nuclear Regulatory Commission's Public Document Room, 1717 H Street, NW, Washington, DC. Copies of the minutes of the meeting will be made available for inspection at the Nuclear Regulatory Commission's Public Document Room, 1717 H Street, NW, Washington, DC, on or after December 10, 1976. Copies may be obtained upon payment of appropriate charges.

JOHN C. HOYLE,
Advisory Committee Management Officer.

SEPTEMBER 23, 1976.

[FR Doc.76-28259 Filed 9-24-76;8:45 am]

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS SUBCOMMITTEE ON THE NORTH ANNA POWER STATION, UNITS 1 AND 2

Concurrent Meetings

In accordance with the purposes of sections 29 and 182b. of the Atomic Energy Act (42 U.S.C. 2039, 2232 b.), the ACRS Subcommittee on the North Anna Power Station, Units 1 and 2, will hold concurrent meetings on October 13, 1976 in Rooms 1046 and 1146, 1717 H St., NW., Washington, D.C. 20555. The purpose of these meetings is to review steam generator and reactor coolant pump support questions, and to continue the ACRS review of other aspects of the application of the Virginia Electric and Power Company (VEPCO) for a license to operate Units 1 and 2.

The agenda for subject meetings shall be as follows:

Wednesday, October 13, 1976, 8:30 a.m., Room 1046. The entire subcommittee will meet in closed Executive Session, with members of the Nuclear Regulatory Commission's Office of Inspector and Auditor, Office of Nuclear Reactor Regulation, and Office of Inspection and Enforcement to discuss results, to date, of an investigation still in progress at the North Anna site.

9:30 a.m. until 10:00 a.m., Room 1146. Some Subcommittee members will meet in closed Executive Session with any of the Subcommittee's consultants who may be present, to explore their preliminary opinions, based upon their independent review of safety reports, regarding matters, other than the steam generator and reactor coolant pump support questions, which should be considered during the open sessions in order to formulate a Subcommittee report and recommendations to the full Committee.

10:00 a.m. until the conclusion of business, Room 1146. The same Subcommittee members will meet in open session with representatives of the NRC Staff, VEPCO, and their consultants, and will hold discussions with these groups pertinent to the review of aspects, other than the steam generator and reactor coolant pump support questions, of the application of VEPCO for a license to operate Units 1 and 2.

9:30 a.m. until 10:30 a.m. and 1:30 p.m. until 2:00 p.m., Room 1046. Other memmers of the Subcommittee will meet in closed Executive Session, with any of the Subcommittee's consultants who may be present, to explore their preliminary opinions, based upon their independent review of safety reports and independent testing, regarding matters related to the steam generator and reactor coolant pump support questions, which should be considered during the open sessions in order to formulate a Subcommittee report and recommendations to the full Committee.

1:30 a.m. until 12:30 p.m. and 2:00 p.m. until the conclusion of business. These same members of the Subcommittee will meet in open session with representatives of the NRC Staff, VEPCO, the Sun Shipbuilding Company, and their consultants, and will hold discussions with these groups pertinent to the review of steam generator and reactor coolant pump support questions.

At the conclusion of the open sessions, the Subcommittee may caucus in brief, closed sessions to determine whether the matters identified in the earlier closed sessions have been adequately covered and whether respective parts of the project are ready for review by the full Committee. During the sessions Subcommittee members and consultants will discuss their opinions and recommendations on these matters. Upon conclusion of these caucuses, the Subcommittee members will meet again in brief open sessions to announce their determinations.

In addition to these closed deliberative sessions, it may be necessary for the Subcommittee to hold one or more closed sessions for the purpose of exploring with the NRC Staff and Applicant matters involving proprietary information, particularly with regard to specific features of the plant design and plans related to plant security.

I have determined, in accordance with subsection 10(d) of Pub. L. 92-463, that it is necessary to conduct the above closed sessions to protect the free interchange of internal views in the final stages of the Subcommittee's deliberative process (5 U.S.C. 552(b)(5)), to protect confidential proprietary information (5 U.S.C. 552(b)(4)), and to protect investigatory records compiled for law enforcement purposes (5 U.S.C. 552(b)(7)).

Separation of factual material from individuals' advice, opinions, and recommendations while closed Executive Sessions are in progress is considered impractical.

Practical considerations may dictate alterations in the above agenda or schedule. The Chairman of the Subcommittee is empowered to conduct these meetings in a manner that, in his judgment, will facilitate the orderly conduct of business, including provisions to carry over an incompleted open session from one day to the next.

With respect to public participation in the open portions of these meeting, the following requirements shall apply:

(a) Persons wishing to submit written statements regarding the agenda may do so by providing a readily reproducible copy to the Subcommittee at the beginning of these meetings. Comments should be limited to safety related areas within the Committee's purview.

Persons desiring to mail written comments may do so by sending a readily reproducible copy thereof in time for consideration at these meetings. Comments postmarked no later than October 6, 1976 to Mr. R. Muller, ACRS, NRC, Washington, D.C. 20555, will normally be received in time to be considered at these meetings.

Background information concerning items to be considered at these meetings can be found in documents on file and available for public inspection at the NRC Public Document Room, 1717 H St., NW., Washington, D.C. 20555; at the Louisa County Courthouse, Office of the County Administrator, Board of Supervisors, Louisa, Va. 23093; and at the Alderman Library, Manuscripts Department, University of Virginia, Charlottesville, Va. 22901.

(b) Those persons wishing to make an oral statement at these meetings should make a written request to do so, identifying the topics and desired presentation time so that appropriate arrangements can be made. The Committee will receive oral statements on topics relevant to the Committee's purview at an appropriate time chosen by the Chairman of the Subcommittee.

(c) Further information regarding topics to be discussed, whether these meetings have been cancelled or rescheduled, the Chairman's ruling on requests for the opportunity to present oral statements and the time alloted therefor can be obtained by a prepaid telephone call on October 12, 1976 to the Office of the Executive Director of the Committee (telephone 202-634-1413, Attn: Mr. R. Muller) between 8:15 a.m. and 5:00 p.m., EDT.

(d) Questions may be propounded only by members of the Subcommittee and its consultants.

(e) The use of still, motion picture, and television cameras, the physical installation and presence of which will not interfere with the conduct of these meetings, will be permitted both before and after these meetings and during any recess. The use of such equipment will not, however, be allowed while these meetings are in session.

(f) Persons with agreements or orders permitting access to proprietary information may attend portions of ACRS meetings where this material is being discussed upon confirmation that such agreements are effective and relate to the material being discussed.

The Executive Director of the ACRS should be informed of such an agreement at least three working days prior to these meetings so that the agreement can be confirmed and a determination can be made regarding the applicability of the agreement to the material that will be discussed during these meetings. Minimum information provided should include information regarding the date of the agreement, the scope of material included in the agreement, the project or projects involved, and the names and titles of the persons signing the agreement. Additional information may be requested to identify the specific agreement involved. A copy of the executed agreement should be provided to Mr. R. Muller of the ACRS Office, prior to the beginning of these meetings.

(g) A copy of the transcription of the open portion of these meetings will be available for inspection on or after October 20, 1976 at the NRC Public Document Room, 1717 H St., NW., Washington, D.C. 20555; at the Louisa County Courthouse, Office of the County Administrator, Board of Supervisors, Louisa, Va. 23093; and at the Alderman Library, Manuscripts Department, University of Virginia, Charlottesville, Va. 22901.

Copies of the minutes of these meetings will be made available for inspection at the NRC Public Document Room, 1717 H St., NW., Washington, D.C. 20555 after January 13, 1977. Copies may be obtained upon payment of appropriate charges.

Dated: September 23, 1976.

JOHN C. HOYLE,
Advisory Committee,
Management Officer.

[FR Doc.76-28260 Filed 9-24-76;8:45 am]

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS SUBCOMMITTEE ON REGULATORY GUIDES

Meeting

In accordance with the purposes of sections 29 and 182 b. of the Atomic Energy Act (42 U.S.C. 2039, 2232 b.), the Advisory Committee on Reactor Safeguards Subcommittee on Regulatory Guides will hold a meeting on October 12, 1976 in Room 1062, 1717 H Street, NW., Washington, D.C. 20555. This meeting will have both open and closed sessions.

The following constitutes that portion of the Subcommittee's agenda for the above meeting which will be open to the public:

Tuesday, October 12, 1976, 9:00 a.m. until about 12:00 Noon. The Subcommittee will hear presentations from the NRC Staff and will hold discussions with this group pertinent to the following items:

(1) Regulatory Guide 1.68, Revision 1, "Preoperational and Initial Startup Testing of Feedwater and Condensate Systems for Boiling Water Reactor Power Plants."

(2) Regulatory Guide 1.91, Revision 1, "Explosions Postulated to Occur on Transportation Routes Near Nuclear Power Plants."

(3) Regulatory Guide 1.95, Revision 1, "Protection of Nuclear Power Plant Control Room Operators Against An Accidental Chlorine Release."

(4) Regulatory Guide 1.32, Revision 2, "Criteria for Safety-Related Electric Power Systems for Nuclear Power Plants."

(5) Regulatory Guide 1.106, Revision 1 (9-14-76), "Thermal Overload Protection for Electric Motors on Motor-Operated Valves."

In connection with the above agenda items, the Subcommittee may hold one or more Executive Sessions, not open to the public, at approximately 8:30 a.m. and 12:00 Noon to consider matters related to the above reviews. These sessions will involve an exchange of opinions and discussions of preliminary views and recommendations of Subcommittee members and internal deliberations for the purpose of formulating recommendations to the ACRS.

After the above portion of the meeting is concluded, the Subcommittee will meet in closed session with the NRC Staff and any consultants at about 12:00 Noon until the close of business to discuss working papers on:

(1) Regulatory Guide 1.31, Revision 2, "Control of Ferrite Content in Stainless Steel Weld Metal"

(2) Regulatory Guide 1.33, Revision 1, "Quality Assurance Program Requirements (Operation)"

(3) Regulatory Guide 1.XX, "Maintenance Testing and Replacement of Large Lead Storage Batteries for Nuclear Power Plants"

(4) Regulatory Guide 1.XX, "Installation Design and Installation of Large Lead Storage Batteries for Nuclear Power Plants.

This portion of the meeting may include Executive Sessions both before and after the closed session with the NRC Staff.

I have determined, in accordance with subsection 10(d) of Pub. L. 92-463, that it is necessary to conduct the above closed sessions to protect the free interchange of internal views in the final stages of the Subcommittee's deliberative process and that other closed sessions will be held to discuss and exchange views on working papers (5 U.S.C. 552(b)(5)). Separation of factual material from individuals' advice, opinions, and recommendations while closed Executive Sessions are in progress is considered impractical.

Practical considerations may dictate alterations in the above agenda or schedule. The Chairman of the Subcommittee is empowered to conduct the meeting in a manner that, in his judgment, will facilitate the orderly conduct of business, including provisions to carry over an incompleted open session from one day to the next.

With respect to public participation in the open portion of the meeting, the following requirements shall apply:

(a) Persons wishing to submit written statements regarding Regulatory Guides 1.68, 1.91, 1.95, 1.32, and 1.106 may do so by providing a readily reproducible copy to the Subcommittee at the beginning of the meeting. Such comments shall be based upon documents on file and available for public inspection at the NRC Public Document Room, 1717 H St., NW., Washington, D.C. 20555.

Persons desiring to mail written comments may do so by sending a readily reproducible copy thereof in time for consideration at this meeting. Comments postmarked no later than October 5, 1976 to Mr. G. R. Quittschreiber, ACRS, NRC, Washington, D.C. 20555 will normally be received in time to be considered at this meeting.

(b) Those persons wishing to make an oral statement at the meeting should make a written request to do so, identifying the topics and desired presentation time so that appropriate arrangements can be made. The Committee will receive oral statements on topics relevant to the Committee's purview at an appropriate time chosen by the Chairman of the Subcommittee.

(c) Further information regarding topics to be discussed, whether the meeting has been cancelled or rescheduled, the Chairman's ruling on requests for the opportunity to present oral statements and the time allotted therefor can be obtained by a prepaid telephone call on October 11, 1976 to the Office of the Executive Director of the Committee (telephone 202/634-1374, Attn: Mr. G. R. Quittschreiber) between 8:15 a.m. and 5:00 p.m., EDT.

(d) Questions may be propounded only by members of the Subcommittee and its consultants.

(e) The use of still, motion picture, and television cameras, the physical installation and presence of which will not interfere with the conduct of the meeting, will be permitted both before and after the meeting and during any recess. The use of such equipment will not, however, be allowed while the meeting is in session.

(f) A copy of the transcript of the open portion of the meeting will be available for inspection on or after October 19, 1976 at the NRC Public Document Room, 1717 H St., NW., Washington, D.C. 20555.

Copies of the minutes of the meeting will be made available for inspection at the NRC Public Document Room, 1717 H St., NW., Washington, D.C. 20555 after January 12, 1977. Copies may be obtained upon payment of appropriate charges.

Date: September 23, 1976.

JOHN C. HOYLE,
Advisory Committee,
Management Officer.

[FR Doc.76-28261 Filed 9-24-76;8:45 am]

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS SUBCOMMITTEE ON THE MARBLE HILL NUCLEAR POWER PLANT UNITS 1 AND 2

Meeting; Change of Time

The agenda for the October 1, 1976 meeting of the ACRS Subcommittee on the Marble Hill Nuclear Power Plant, Units 1 and 2, has been changed as follows: The Executive Session will begin at 9:00 a.m. instead of 10:00 a.m., and the open session will begin at 9:30 a.m. instead of 10:30 a.m. Announcement of this meeting was made in FR Vol. 41, September 16, 1976, page 39846.

All other matters pertaining to this meeting remain the same.

Dated: September 21, 1976.

JOHN C. HOYLE,
Advisory Committee,
Management Officer.

[FR Doc.76-28262 Filed 9-24-76;8:45 am]

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS REACTOR SAFETY STUDY WORKING GROUP

Meeting

In accordance with the purposes of sections 29 and 182 b. of the Atomic Energy Act (42 U.S.C. 2039, 2232 b.), the ACRS Reactor Safety Study Working Group will hold a meeting on October 12, 1976 in Room 1046, 1717 H St., NW., Washington, D.C. 20555. The purpose of this meeting is to review WASH-1400 (NUREG-75/014), "An Assessment of Accident Risks in U.S. Commercial Nuclear Power Plants."

The agenda for the subject meeting shall be as follows:

Tuesday, October 12, 1976, 6:30 p.m. The Working Group will meet in closed Executive Session, with any of its consultants who may be present, to explore their preliminary opinions, based upon their independent review of WASH-1400, regarding matters which should be considered during the open session in order to formulate a Working Group report and recommendations to the full Committee.

6:45 p.m. until conclusion of business. The Working Group will meet in open session to hear presentations and hold discussions with representatives of the NRC Staff regarding the final version of the Reactor Safety Study report and the current and future efforts of the study group.

At the conclusion of the open session, the Working Group will meet in closed session to exchange advice, opinions and recommendations regarding the study. During this session Working Group members and consultants will discuss their opinions and recommendations on these matters.

I have determined, in accordance with subsection 10(d) of Pub. L. 92-463, that it is necessary to conduct the above closed sessions to protect the free interchange of internal views in the Working Group's deliberative process (5 U.S.C. 552(b)(5)). Separation of factual material from individuals' advice, opinions and recommendations while closed Executive Sessions are in progress is considered impractical.

Practical considerations may dictate alterations in the above agenda or schedule. The Chairman of the Working Group is empowered to conduct the meeting in a manner that, in his judgment, will facilitate the orderly conduct of business, including provisions to carry over an incompleted open session from one day to the next.

With respect to public participation in the open portion of the meeting, the following requirements shall apply:

(a) Persons wishing to submit written statements regarding the agenda items may do so by providing a readily reproducible copy to the Working Group at the beginning of the meeting. Comments should be limited to safety related areas within the Working Group's purview.

Persons desiring to mail written comments may do so by sending a readily reproducible copy thereof in time for consideration at this meeting. Comments postmarked no later than October 5, 1976 to Mr. J. C. McKinley, ACRS, NRC, Washington, D.C. 20555 will normally be received in time to be considered at this meeting.

(b) Those persons wishing to make an oral statement at the meeting should make a written request to do so, identifying the topics and desired presentation time so that appropriate arrangements can be made. The Working Group will receive oral statements on topics relevant to its purview at an appropriate time chosen by the Chairman of the Working Group.

(c) Further information regarding topics to be discussed, whether the meeting has been cancelled or rescheduled, the Chairman's ruling on requests for the opportunity to present oral statements and the time allotted therefor can be obtained by a prepaid telephone call on October 11, 1976 to the Office of the Executive Director of the Committee (telephone 202/634-1371, Attn: Mr. J. C. McKinley) between 8:15 a.m. and 5:00 p.m., EDT.

(d) Questions may be propounded only by members of the Working Group and its consultants.

(e) The use of still, motion picture, and television cameras, the physical installation and presence of which will not interfere with the conduct of the meeting, will be permitted both before and after the meeting and during any recess. The use of such equipment will not, however, be allowed while the meeting is in session.

(f) A copy of the transcript of the open portion of the meeting will be available for inspection on or after October 19, 1976 at the NRC Public Document Room, 1717 H St., NW., Washington, D.C. 20555.

Copies of the minutes of the meeting will be made available for inspection at the NRC Public Document Room, 1717 H St., NW., Washington, D.C. 20555 after January 12, 1977. Copies may be obtained upon payment of appropriate charges.

Dated: September 23, 1976.

John C. Hoyle,
Advisory Committee,
Management Officer.

[FR Doc.76-28263 Filed 9-24-76;8:45 am]

[Docket No. PRM-51-3]

NATURAL RESOURCES DEFENSE COUNCIL

Extension of Comment Period

On August 16, 1976, the Nuclear Regulatory Commission published in the Federal Register (41 FR 34709) a notice that Anthony Z. Roisman and J. Gustave Speth had filed with the Nuclear Regulatory Commission a petition for rulemaking on behalf of the Natural Resources Defense Council.

The petitioners requested that the Commission adopt rules for the implementation of the decision of the United States Court of Appeals for the District of Columbia Circuit in "Natural Resources Defense Council v Nuclear Regulatory Commission" (Docket Nos. 74-1385 and 74-1586).

Interested persons were invited to submit comments on the petition by August 31, 1976. In view of several formal and informal requests to extend the comment period, including a request for extension received from the California Energy Resources Conservation and Development Commission, the Commission is hereby extending the time for filing comments until October 1, 1976.

Accordingly, no later than October 4, 1976, all interested persons who desire to submit written comments or suggestions concerning the petition for rulemaking should send them to the Secretary of the Commission, Attention: Docketing and Service Section, United States Nuclear Regulatory Commission, Washington, D.C. 20555.

A copy of the petition for rulemaking is available for public inspection in the Commission's Public Document Room, 1717 H Street, N.W., Washington, D.C. A copy of the petition was also published in the Federal Register with the notice of August 16, 1976 (41 FR 34709).

Dated at Washington, D.C. this 23d day of September 1976.

Samuel J. Chilk,
Secretary of the Commission.

[FR Doc.76-28380 Filed 9-24-8:45 am]

OFFICE OF MANAGEMENT AND BUDGET

COMMISSION ON EXECUTIVE, LEGISLATIVE, AND JUDICIAL SALARIES

Notice of Public Meeting

Pursuant to Public Law No. 92-463, notice is hereby given of the first meeting of the Commission on Executive, Legislative, and Judicial Salaries to be held in Room 2008, New Executive Office Building, 726 Jackson Place NW., Washington, D.C. on October 12, 1976 at 10:00 a.m. to 12:00 noon and to reconvene at 1:30 p.m.

The meeting will be open to public observation and participation. As this is the first meeting of the Commission, it will be concerned with matters dealing with organization, work plans, and schedule of activities.

Anyone wishing to participate or attend this meeting should contact the Commission on Executive, Legislative, and Judicial Salaries, Suite 950, 1000 Connecticut Avenue NW., Washington, D.C. 20036, telephone number (202) 634-1650.

Phillip D. Larsen,
Acting Assistant to the Director
for Administration.

CLEARANCE OF REPORTS

List of Requests

The following is a list of requests for clearance of reports intended for use in collecting information from the public received by the Office of Management and Budget on Sept. 22, 1976 (44 U.S.C. 3509). The purpose of publishing this list in the Federal Register is to inform the public.

The list includes the title of each request received; the name of the agency sponsoring the proposed collection of information; the agency form number(s), if applicable; the frequency with which the information is proposed to be collected; the name of the reviewer or reviewing division within OMB, and an indication of who will be the respondents to the proposed collection.

Requests for extension which appear to raise no significant issues are to be approved after brief notice through this release.

Further information about the items on this daily list may be obtained from the clearance office, Office of Management and Budget, Washington, D.C. 20503 (202-395-4529), or from the reviewer listed.

New Forms

DEPARTMENT OF COMMERCE

Domestic and International Business Administration, Product Liability Industry Survey, DIB-9000, single-time, manufacturers, Ellett, C. A., 395-5867.

DEPARTMENT OF DEFENSE

Department of the Air Force, Vocational Interest Career Examination (voice), single-time, high school students grades 10-11-12, Richard Eisinger, 395-6140.

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Housing Management:
- Temporary Housing Occupant Survey, HUD-99009, on occasion, occupants of disaster temporary housing program, Housing, Veterans and Labor Division, 395-3532.
- Statement of Interest in Mobile, Home Purchase, HUD-99012, on occasion, occupants of disaster temporary housing, Housing, Veterans and Labor Division, 395-3532.
- Referral to Alternate Housing, HUD-99008, on occasion, occupants of disaster temporary housing, Housing, Veterans and Labor Division, 395-3532.
- Recertification Questionnaire and Recommendation, HUD-99014, quarterly, occupants of disaster temporary housing, Housing, Veterans and Labor Division, 395-3532.
- Vertification of Income, HUD-99016, on occasion, employers of occupants of disaster temporary housing, Housing, Veterans and Labor Division, 395-3532.

Policy Development and Research, Household Interview Surveys for Urban Homesteading Evaluation, other (see SF-83), homesteaders; lottery—rejected applicants, resident urban housing development neighborhood, Housing, Veterans and Labor Division, C. Louis Kincannon, 395-3532.

Housing Management, financial statement, HUD-99015, on occasion, occupants of disaster temporary housing, Housing, Veterans and Labor Division, 395-3532.

DEPARTMENT OF LABOR

Departmental and other, Energy Sector, Federal Interagency Task Force, on occasion, utilities, construction firms, Strasser, A., 395-5867.

Revisions

VETERANS ADMINISTRATION

Request for Determination of Eligibility and Available Loan, Guaranty Entitlement, 26-1880, on occasion, veterans, Caywood, D. P., 395-3443.

State Approving Agency Check Sheet (correspondence courses), 22-8670, on occasion, state approving agencies, Caywood, D. P., 395-3443.

DEPARTMENT OF JUSTICE

Offices, Boards, Divisions, registration statements of individuals (foreign agents), DJ-301, on occasion, registrants, Warren Topelius, 395-5872.

Extensions

DEPARTMENT OF COMMERCE

Bureau of Economic Analysis, Travel Questionnaire For United States Residents Returned From Trips Abroad, BE-574, quarterly, United States residents who traveled abroad, Marsha Trayniham, 395-4529.

Economic Development Administration, EDA Loan Request—Supplement, ED-101AS, on occasion, units of local government, Marsha Traynham, 395-4529.

DEPARTMENT OF JUSTICE

Immigration and Naturalization Service, Affidavit of Support (immigrant authorization cases), I-134, on occasion, immigrants, Marsha Traynham, 395-4529.

DEPARTMENT OF LABOR

Bureau of Labor Statistics:
- Commodity Price Information Sheet, BLS1810, on occasion, wholesale price reporters, Strasser, A., 395-5867.
- Health Benefits Plan Study, BLS-3069, single-time, plan administrators, Strasser, A., 395-5867.

Phillip D. Larsen,
Budget and Management Officer.

[FR Doc.76-28315 Filed 9-24-76;8:45 am]

CLEARANCE OF REPORTS

List of Requests

The following is a list of requests for clearance of reports intended for use in collecting information from the public received by the Office of Management and Budget on Sept. 20, 1976 (44 USC 3509). The purpose of publishing this list in the FEDERAL REGISTER is to inform the public.

The list includes the title of each request received; the name of the agency sponsoring the proposed collection of information; the agency form number(s), if applicable; the frequency with which the information is proposed to be collected; the name of the reviewer or reviewing division within OMB, and an indication of who will be the respondents to the proposed collection.

Requests for extension which appear to raise no significant issues are to be approved after brief notice through this release.

Further information about the items on this daily list may be obtained from the clearance Office, Office of Management and Budget, Washington, D.C. 20503 (202-395-4529), or from the reviewer listed.

NEW FORMS

NATIONAL SCIENCE FOUNDATION

Data Collection for Estimating Rates of Return to 40 Industrial Innovations, single-time, industrial firms producing and using innovations, Ellett, C. A., 395-5867.

UNITED STATES INTERNATIONAL TRADE COMMISSION

Producers' Questionnaire—Wearing Apparel of Leather, single-time, producers, Laverne V. Collins, 395-5867.

DEPARTMENT OF STATE (EXCL. AID AND ACTION)

Information on Political Contributions and Fees or Commissions in Connection with the Sale of Defense Articles or Services, on occasion, exporters of munitions list items, Warren Topelius, 395-5872.

UNITED STATES INTERNATIONAL TRADE COMMISSION

Distributors Questionnaire—Dumping Investigation, knitting machines for hosiery, single-time, importers of machines, Laverne V. Collins, 395-5867.

Users Questionnaire, Dumping Investigation, knitting machines for hosiery, single-time, hosiery manufacturers, Laverne V. Collins, 395-5867.

DEPARTMENT OF COMMERCE

Bureau of Census:

- Reconciliation Form for Vacant and Deleted Units 1976 Census of Camden, New Jersey, DF-354, single-time, persons near vacant and possessed nonexistent units of Camden, N.J., Maria Gonzalez, 395-6132.
- 1977 Census of Transportation—Truck Inventory and Use Survey, TC-200, single-time, truck owners (private and for hire), Strasser, A., 395-5867.

REVISIONS

VETERANS ADMINISTRATION

Request to Lender for Status of Loan Account, 26-194, on occasion, Holder, Caywood, D. P., 395-3443.

DEPARTMENT OF AGRICULTURE

Packers and Stockyards Administration, Annual Report of Packers (Meat Packers) Wholesalers, Retailers, etc.), P8SA-125, annually, approximately 2,300 meat packers in U.S., Caywood, D. P., 395-3443.

DEPARTMENT OF COMMERCE

Economic Development Administration, Mail/On-Site Follow-on Survey to Form ED-110X, ED110XF, single-time, randomly selected sample of title X (PWEDA) employees, Caywood, D. P., 395-3443.

DEPARTMENT OF DEFENSE

Department of the Army (Excl. DEF Civil Preparedness Agcy.): Storage Warehouses, RHB-29, on occasion, storage warehouse operators, Strasser, A., 395-5867.

Grain Elevators (Survey of Port Facilities), RHB-28, on occasion, grain elevator operators, Strasser, A., 395-5867.

Piers, Wharves and Docks (Survey of Port Facilities), RHB-22, on occasion, pier, wharf, and dock operators, Strasser, A., 395-5867.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Office of Human Development, Report on Vending Stand Program, SRS-RSA-15, annually, State licensing agencies, housing, veterans and labor division, 395-3532.

EXTENSIONS

DEPARTMENT OF COMMERCE

Economic Development Administration: Technical Assistance Preapplication for Federal Assistance, ED-357P, on occasion, all in areas of substantial economic distress, Caywood, D. P., 395-3443.

Technical Assistance Application for Federal Assistance, ED-357A, on occasion, all in areas of substantial economic distress, Caywood, D. P., 395-3443.

Assurance of Job Opportunities for the Unemployed, ED-612, on occasion, Employer, Caywood, D. P., 395-3443.

DEPARTMENT OF DEFENSE

Department of the Army excluding Defense Civil Preparedness Agency):

- Marine Railways (Port Facilities), RHB-34, on occasion, marine railway operators, Strasser, A., 395-5867.

Oil Bunkering and Storage Facilities, RHB-20, on occasion, piers, wharf, and dock operators, Strasser, A., 395-5867.

Floating Dry Docks (Port Facilities), RHB-33, on occasion, marine repair plant operators, Strasser, A., 395-5867.

Graving Docks (Port Facilities, RHB-32, on occasion, marine repair plant operators, Strasser, A., 395-5867.

Floating Equipment (Port Facilities), RHB-31, on occasion, towboat operators, Strasser, A., 395-5867.

Marine Repair Plants, RHB-30, on occasion, marine repair plant operators, Strasser, A., 395-5867.

PHILLIP D. LARSEN,
Budget and Management Officer.

[FR Doc.76-28316 Filed 9-24-76;8:45 am]

CLEARANCE OF REPORTS

List of Requests

The following is a list of requests for clearance of reports intended for use in collecting information from the public received by the office of management and budget on September 17, 1976 (44 USC 3509). The purpose of publishing this list in the FEDERAL REGISTER is to inform the public.

The list includes the title of each request received; the name of the agency sponsoring the proposed collection of information; the agency form number (S), if applicable; the frequency with which the information is proposed to be collected; the name of the reviewer or reviewing division within OMB, and an indication of who will be the respondents to the proposed collection.

Requests for extension which appear to raise no significant issues are to be approved after brief notice through this release.

Further information about the items on this daily list may be obtained from the Clearance Office, Office of Management and Budget, Washington, D.C. 20503, (202-395-4529), or from the reviewer listed.

NEW FORMS

ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION

Data Sheet for Operational Solar Energy Systems, NBS-1061, single-time, installers or manufacturers of solar energy systems, Hulett, D. T., 395-4730.

NATIONAL FOUNDATION ON THE ARTS AND HUMANITIES

National Endowment for the Humanities Evaluation Study of the Scholarly Editions, single-time, literature specialists, librarians, historians, philosophers, human resources division, Raynsford, R., 395-3532.

DEPARTMENT OF AGRICULTURE

Food and Nutrition Service, Annual Report of Food Service in Schools and Residential Child-Care Institutions, FNS-47, annually, state educational agencies, Warren Topelius, 395-5872.

DEPARTMENT OF DEFENSE

Department and other:

- Armed Forces Bicentennial Caravan Questionnaire, single time, public visitors to bicentennial caravan, Maria Gonzalez, 395-6132.
- DOD-1976 Post Election Survey—Form B, other (see SF-83), U.S. citizens residing overseas, Denis Johnston, 395-6132.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Alcohol, Drug Abuse and Mental Health Administration:

- Inventory of Psychriatric Hospitals, ADM-15-1A, annually, mental health facilities, Richard Eisinger, 395-6140.
- Inventory of Mental Health Facilities, ADM-25-1, other (see SF-83), mental health facilities, Richard Eisinger, 395-6140.
- Inventory of General Hospital Psychiatric Services, ADM-25-2, other (see SF-83), mental health facilities, Richard Eisinger, 395-6140.

REVISIONS

VETERANS ADMINISTRATION

Request to Lender for Information Regarding Status of Loan—Veteran Applied for Subsequent Loan, 26-247, on occasion, lenders, Caywood, D. P. 395-3443.

Mobile Home Loan Claim Under Loan Guaranty, 26-8629, annually, holders, Caywood, D. P., 395-3443.

DEPARTMENT OF COMMERCE

Domestic and International Business Administration, New Product Information Service, DIB-4063P, on occasion, U.S. firms with new products, Warren Topelius, 395-5872.

DEPARTMENT OF LABOR

Employment and Training Administration, CETA Forms Preparation Handbook—Titles I, II, III and VI, MA 2-202, 203, 219, 220; MA-5-134-136, 145, 145A, other (see SF-83), state and local agencies, Caywood, D. P., 395-3443.

Bureau of Labor Statistics, Occupational Wage Survey Program, 2751A, 2752A, 2752B, 2753F, 2753G, other (see SF-83), establishments in specified SIC's and SMSA's, Strasser, A., 395-5867.

EXTENSIONS

UNITED STATES INFORMATION AGENCY

Military Service Data (Supplement to Application—Confirmation of Military Service), 1AP-11, on occasion, veterans, Marsha Traynham, 395-4529.

DEPARTMENT OF AGRICULTURE

Agricultural Marketing Service, Gin Equipment Schedule (Ginners Report), CN-15, annually, cotton ginners, Marsha Traynham, 395-4529.

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration, Storm Report and Volunteer Storm Observer, 86-512, on occasion, rural individuals within a radius of 120 km., Warren Topelius, 395-5872.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Social Security Administration, Representative Payee Report (For One Who Receives Benefits on Behalf of a Child), SSA-623, annually, independent social agencies who receive and disburse social security benefits, Caywood, D. P., 395-3443.

Alcohol, Drug Abuse and Mental Health Administration, Annual Inventory of Community Mental Health Centers of Public Mental Hospitals, MH-25-3, annually, mental health facilities, Richard Eisinger, 395-6140.

National Institute of Education, Research Grants Application and Project Data Form, NIE-10, on occasion, educational researchers, Caywood, D. P., 395-3443.

PHILLIP D. LARSEN,
Budget and Management Officer.

[FR Doc.76-28317 Filed 9-29-76;8:45 am]

SECURITIES AND EXCHANGE COMMISSION

[SR-PSE-76-29]

PACIFIC STOCK EXCHANGE INC.

Order Approving Proposed Rule Changes

On August 9, 1976, the Pacific Stock Exchange Incorporated ("PSE"), 618 South Spring Street, Los Angeles, California 90014, filed with the Commission, pursuant to section 19(b) of the Securities Exchange Act of 1934 (the "Act"), as amended by the Securities Acts Amendments of 1975, and Rule 19b-4 thereunder, copies of proposed rule changes. The proposed rule changes amend sections 39 and 84 of Rule VI of the PSE Rules, to enable Options Floor Officials to impose fines not exceeding $1,000 on members for conduct on the PSE Options Trading Floor violative of the Exchange's Rules and Policies.

Notice of the proposed rule changes together with their terms of substance was given by publication of a Commission Release (Securities Exchange Act Release No. 12699, August 10, 1976), and by publication in the FEDERAL REGISTER (41 FR 34717, August 16, 1976).

The Commission finds that the proposed rule changes are consistent with the requirements of the Act and the rules and regulations thereunder applicable to registered national securities exchanges, and in particular, the requirements of sections 6 and 19, and the rules and regulations thereunder.

It is therefore ordered, Pursuant to section 19(b)(2) of the Act, that the above-mentioned proposed rule changes be, and they hereby are, approved.

For the Commission by the Division of Market Regulation, pursuant to delegated authority.

GEORGE A. FITZSIMMONS,
Secretary.

[FR Doc.76-28159 Filed 9-24-76;8:45 am]

[70-5893]

SOUTHWESTERN ELECTRIC POWER CO.

Supplemental Notice of Proposed Issue and Sale of First Mortgage Bonds to Municipality in Connection With Financing of Pollution Control Facilities; Request for Exception From Competitive Bidding

Notice is hereby given that Southwestern Electric Power Company ("SWEPCO"), P.O. Box 21106, Shreveport, Louisiana 71156, an electric utility subsidiary company of Central and South West Corporation, a registered holding company, has filed an application-declaration with this Commission pursuant to the Public Utility Holding Company Act of 1935 ("Act") designating sections 6 and 7 of the Act and Rule 50 promulgated thereunder as applicable to the proposed transactions. All interested persons are referred to the application-declaration, which is summarized below, for a complete statement of the proposed transactions.

SWEPCO states that in order to comply with applicable state and federal environmental requirements with respect to its Flint Creek Power Plant ("plant") under construction near Siloam Springs, Arkansas, it is necessary to construct and equip the plant with certain air and water pollution control facilities and sewage and solid waste disposal facilities ("facilities"). To finance the acquisition, construction and equipment of the facilities, SWEPCO proposes to make two borrowings from the City of Siloam Springs, Arkansas ("City").

The two loans from the City to SWEPCO will be made under two loans agreements ("loan agreements"). The loan agreements provide that the City will issue its Revenue Bonds ("revenue bonds") at SWEPCO's request and the City will concurrently loan SWEPCO an amount equal to the aggregate principal amount of the revenue bonds. The City is expected to issue its revenue bonds in two series ("Series A and B revenue bonds"). The loan agreements further require SWEPCO to execute and deliver its bonds ("SWEPCO bonds") to the Revenue Bond Trustee as evidence of and security for the loans.

The loan agreements obligate SWEPCO to complete the facilities, whether or not the loan proceeds are sufficient therefor, and to apply the loan proceeds to the costs thereof as defined in the loan agreements. SWEPCO further agrees to indemnify the City in connection with the transactions contemplated by the loan agreements and to provide the City with sufficient revenues to discharge its obligations on the revenue bonds.

The SWEPCO bonds will be issued under SWEPCO's Indenture dated February 1, 1940 to Continental Illinois National Bank and Trust Company of Chicago and M. J. Kruger, as Trustees. The SWEPCO bonds will be issued in two series: The Series A SWEPCO bonds will be issued in a principal amount estimated at approximately $8,000,000 (but not in excess of $9,000,000) and will be equal in amount to the Series A revenue bonds. Notice of the proposed issue and sale of the Series A SWEPCO bonds was issued August 24, 1976 (HCAR No. 19659). The Series B SWEPCO and revenue bonds will be issued in the principal amount of $1,000,000 and will mature 30 years from the first day of the month in which they are issued. Terms of the Series A and B SWEPCO bonds will be identical except that the Series B SWEPCO bonds will not have a sinking fund. The Series A SWEPCO bonds will be subject to either sinking fund redemption or serial maturity provisions sufficient to ensure the retirement of 25% of the aggregate principal amount of both series of the SWEPCO bonds prior to 30 years from their issue date.

Sale of the Series B revenue bonds will be contingent on the sale of the Series A revenue bonds, but not vice versa. Proceeds of the Series B revenue bonds will be used to finance cost of facilities which might not qualify as allowable under state and federal laws respecting pollution control revenue bonds.

It is contemplated that the City will sell its revenue bonds through a public offering managed by Merrill Lynch, Pierce, Fenner & Smith, Inc. SWEPCO will not be a party to the contract between Merrill Lynch and the City but terms of that contract are subject to SWEPCO's approval.

SWEPCO requests an exception from the competitive bidding requirements of Rule 50 for the sale of its bonds to the City pursuant to Rule 50(a)(5).

It is stated that the Arkansas Public Service Commission and the Corporation Commission of the State of Oklahoma have jurisdiction over the proposed transactions and that no other state commission and no federal commission, other than this Commission, has jurisdiction over the proposed transactions. Fees and expenses to be incurred in connection with the proposed transactions will be supplied by amendment.

Notice is further given that any interested person may, not later than October 5, request in writing that a hearing be held on such matter, stating the nature of his interest, and reasons for such request, and the issues of fact or law raised by said application-declaration which he desires to controvert; or he may request that he be notified if the Commission should order a hearing thereon. Any such request should be addressed: Secretary, Securities and Exchange Commisison, Washington, D.C. 20549. A copy of such request should be served personally or by mail upon the applicant-declarant at the above-stated address and proof of service (by affidavit or, in case of an attorney at law, by certificate) should be filed with the request. At any time after said date, the application-declaration, as it may be amended, may be granted and permitted to become effective as provided in Rule 23 of the general rules and regulations promulgated under the Act, or the Commission may grant exemption from such rules as provided in Rules 20(a) and 100 thereof or take such other action as it may deem appropriate. Persons who request a hearing or advice as to whether a hearing is ordered will receive any notices and orders issued in this matter, including the date of the hearing (if ordered) and any postponements thereof.

For the Commission, by the Division of Corporate Regulation, pursuant to delegated authority.

George A. Fitzsimmons,
Secretary.

[FR Doc.76-28158 Filed 9-24-76;8:45 am]

UNITED STATES SINAI SUPPORT MISSION

[Delegation of Authority 4]

PROGRAM OFFICE DIRECTOR

Revocation of Delegation of Authority 4

Pursuant to the authority vested in me by Executive Order 11896, issued January 13, 1976, I hereby revoke Delegation of Authority 4, dated March 15, 1976, and published in the Federal Register on April 9, 1976, page 15074.

This revocation is effective immediately.

Dated: September 17, 1976.

C. William Kontos,
Director, United States Sinai Support Mission.

[FR Doc.76-28200 Filed 9-24-76;8:45 am]

INTERSTATE COMMERCE COMMISSION

[Notice 152]

ASSIGNMENT OF HEARINGS

September 22, 1976.

Cases assigned for hearing, postponement, cancellation or oral argument appear below and will be published only once. This list contains prospective assignments only and does not include cases previously assigned hearing dates. The hearings will be on the issues as presently reflected in the Official Docket of the Commission. An attempt will be made to publish notices of cancellation of hearings as promptly as possible, but interested parties should take appropriate steps to insure that they are notified of cancellation or postponements of hearings in which they are interested.

MC 119792 (Sub-No. 53), Chicago Transportation Company, now assigned October 28, 1976, at Chicago, Ill. will be held in Room 1319, Everett McKinley Dirksen Building, 219 S. Dearborn Street.

No. MC 135552 (Sub-No. 3), Allied Underwriters, Inc., Extension-Charter and Special Operations, now assigned November 1, 1976, at La Crosse, Wis. will be held at the State Office Building, 3550 Mormon Coulee Road.

No. MC 25869 (Sub-No. 127), Nolte Bros. Truck Line, Inc., now assigned October 27, 1976, at Chicago, Ill. will be held in Room 1319, Everett McKinley Dirksen Building, 219 South Dearborn St.

MC 140580, Earl Haines, Inc. now assigned October 21, 1976 at Washington, D.C. is cancelled, application dismissed.

MC 141712, Parts Carriers, Inc., application dismissed.

MC-C-8782, Petition for Investigation of Operations of Virginia Stage Lines, Inc., now being assigned November 30, 1976, at the Offices of the Interstate Commerce Commission, Washington, D.C.

H. G. Homme, Jr.,
Acting Secretary.

[FR Doc.76-28215 Filed 9-24-76;8:45 am]

FOURTH SECTION APPLICATION FOR RELIEF

September 22, 1976.

An application, as summarized below, has been filed requesting relief from the requirements of section 4 of the Interstate Commerce Act to permit common carriers named or described in the application to maintain higher rates and charges at intermediate points than those sought to be established at more distant points.

Protests to the granting of an application must be prepared in accordance with Rule 40 of the general rules of practice (49 CFR 1100.40) and filed on or before October 12, 1976.

FSA No. 43241—*Joint Water-Rail Container Rates—Pacific Far East Line, Inc.* Filed by Pacific Far East Line, Inc., (No. 9), for itself and interested rail carriers. Rates on general commodities, from rail stations on the U.S. Gulf Seaboard, to Egyptian, Mediterranean, Middle Eastern and Turkish ports.

Grounds for relief—Water competition.

Tariff—Pacific Far East Line, Inc., tariff No. 10, I.C.C.

No. 10. Rates are published to become effective on October 17, 1976.

By the Commission.

H. G. Homme, Jr.,
Acting Secretary.

[FR Doc.76-28216 Filed 9-24-76;8:45 am]

[Notice 37]

MOTOR CARRIER BOARD TRANSFER PROCEEDINGS

The following publications include motor carrier, water carrier, broker, and freight forwarder transfer applications filed under section 212(b), 206(a), 211, 312(b), and 410(g) of the Interstate Commerce Act.

Each application (except as otherwise specifically noted) contains a statement by applicants that there will be no significant effect on the quality of the human environment resulting from approval of the application.

Protests against approval of the application, which may include a request for oral hearing, must be filed with the Commission on or before October 27, 1976. Failure seasonably to file a protest will be construed as a waiver of opposition and participation in the proceeding. A protest must be served upon applicants' representative(s), or applicants (if no such representative is named), and the protestant must certify that such service has been made.

Unless otherwise specified, the signed original and six copies of the protest shall be filed with the Commission. All protests must specify with particularity the factual basis, and the section of the Act, or the applicable rule governing the proposed transfer which protestant believes would preclude approval of the application. If the protest contains a request for oral hearing, the request shall be supported by an explanation as to why the evidence sought to be presented cannot reasonably be submitted through the use of affidavits.

The operating rights set forth below are in synopses form, but are deemed sufficient to place interested persons on notice of the proposed transfer.

No. MC-FC-76660, filed September 10, 1976. Transferee: Giuffre Tours, Inc., 19 Lincoln Avenue, Amsterdam, New York 12010. Transferor: Calisant Tours, Inc., 19 Lincoln Avenue, Amsterdam, New York 12010. Applicants' representative: Louis H. Shereff, Esq., 292 Madison Avenue, New York, New York 10017. Authority sought for purchase by transferee of the operating rights of transferor, as set forth in License No. MC 130118, issued March 16, 1971, as follows: Passengers and their baggage in the same vehicle with passengers, in all expense round trip tours, in special and charter operation, beginning and ending at points in that part of Schoharie County, N.Y., on and north of New York Highway 7, and points in Fulton and Montgomery Counties, N.Y., and extending to points in the United States (including Alaska and Hawaii). Applicant is authorized to engage in the above-specified operations as a broker at Amsterdam, N.Y. Transferee presently holds no authority from this Commission. Application has not been filed for temporary authority under Section 210a(b).

No. MC-FC-76675, filed July 27, 1976. Transferee: MILKO — AMERICAN

FARMS, INC., 2412 Cullen, Forth Worth, Tex. Transferor: GOVAN EXPRESS, INC., 304 South Sooner Road, Oklahoma City, Okla. 73106. Applicants' representative: Billy R. Reid, P.O. Box 9093, Fort Worth, Tex. 76107. Authority sought for purchase by transferee of the operating rights of transferor, as set forth in Certificates No. MC–118180 (Sub-No. 1), (Sub-No. 4), (Sub-No. 5), (Sub-No. 6), (Sub-No. 7), (Sub-No. 9), (Sub-No. 11), and (Sub-No. 12), as follows: (1) *Meats, meat products* and *meat by-products, dairy products,* and *articles distributed by meat packing houses,* as described in Sections A, B, and C of Appendix I to the report in *Descriptions in Motor Carrier Certificates,* 61 M.C.C. 209 and 766, Between Oklahoma City, Okla., on the one hand, and, on the other, specified points in Texas; Between Forth Worth, Tex., on the one hand, and, on the other, specified points in Oklahoma; From Dallas and Fort Worth, Tex., to specified points in Oklahoma; (2) From the plant site and storage facilities of Wilson Certified Foods, Inc., at Oklahoma City, Okla., to points in Colorado; *Meats, meat products,* and *meat by-products,* and *articles distributed by meat packinghouses,* as described in Sections A and C of Appendix I to the report in *Descriptions in Motor Carrier Certificates,* 61 M.C.C. 209 and 766, From the plant site and storage facilities of National Beef Packing Company near Liberal Kans., to points in Oklahoma and Texas; *Meats, meat products,* and *meat by-products,* and *articles distributed by meat packinghouses* as described in Sections A and C of appendix I to the report in *Descriptions in Motor Carrier Certificates,* 61 M.C.C. 204 and 766 (except commodities in bulk), From the plant site of National Beef Packing Company, located near Liberal, Kans., to points in Louisiana, Arkansas, Mississippi, and Alabama; *Meats,* From the plant site and storage facilities of Wilson and Co., near Hereford, Tex., to points in Oklahoma and Texas; *Meats,* with or without other ingredients, in hermetically sealed containers, From the plant site of Armour-Dial, Inc., at Fort Madison, Iowa, to points in Texas; *Packinghouse products,* Between Shreveport, La., and Marshall, Tex., on the one hand, and, on the other, specified points in Texas; and (1) *Foodstuffs,* and (2) *laundry products* when moving in mixed shipments with foodstuffs, From Dallas and Forth Worth, Tex., to points in Texas, Oklahoma, and that part of Louisiana West of the Mississippi River. Transferee presently holds no authority from this Commission. Application has been filed for temporary authority under Section 210a(b).

No. MC–FC–76677, filed July 26, 1976. Transferee: Elizabeth C. Barnes, Ann Marie Torti and Melissa C. Barnes, doing business as Southern Forwarding Company, 728 Alston, Memphis, Tenn. 38102. Transferor: Southern Forwarding Company, a corporation, 728 Alston, Memphis, Tenn. 38102. Applicants' representative: James N. Clay, III, Attorney-at-Law, 2700 Sterick Building, Memphis, Tenn. 38103. Authority sought for purchase by transferee of the operating rights of transferor as set forth in Certificates Nos. MC 71460, MC 71460 (Sub-No. 3), MC 71460 (Sub-No. 6), MC 71460 (Sub-No. 8), MC 71460 (Sub-No. 9), and MC 71460 (Sub-No. 12), issued April 26, 1963, September 2, 1958, December 22, 1969, April 24, 1969, March 4, 1971, and December 22, 1975, respectively, as follows: General commodities, with specified exceptions, over specified routes between specified points in Tennessee, Kentucky, and Indiana. Transferee presently holds no authority for this Commission. Application has not been filed for temporary authority under section 210a(b).

H. G. Homme, Jr.,
Acting Secretary.

[FR Doc.76–28217 Filed 9–24–76;8:45 am]

TRANSPORTATION OF "WASTE" PRODUCTS FOR REUSE OR RECYCLING

Special Certificate Letter Notice(s)

The following letter notices request participation in a Special Certificate of Public Convenience and Necessity for the transportation of "waste" products for reuse or recycling in furtherance of a recognized pollution control program under the Commission's regulations (49 CFR Part 1062) promulgated in "Waste" Products, Ex Parte No. MC–85, 124 MCC 583 (1976).

An original and one copy of protests against applicant's participation may be filed with the Interstate Commerce Commission on or before October 18, 1976. A copy must also be served upon applicant or its representative. Protests against the applicant's participation will not operate to stay commencement of the proposed operation. If the applicant is not otherwise informed by the Commission, operations may commence within 30 days of the date of its notice in the Federal Register, subject to its tariff publication effective date.

P–5–76 (Amendment) (Special Certificate—Waste Products) filed August 8, 1976, published in the Federal Register issue of August 17, 1976, and republished to indicate additional sponsors and waste commodities. Applicant: DANNY HERMAN TRUCKING, INC., 15626 Old Valley Blvd., City of Industry, Calif. 91744. Applicant's representative: William J. Monheim, P.O. Box 1756, Whittier, Calif. 90609. Authority sought to operate pursuant to a certificate of public convenience and necessity authorizing operations in interstate or foreign commerce, as a *common carrier,* by motor vehicle, over irregular routes, in the transportation of *waste products for recycling or reuse,* between points in the United States (including Alaska, but excluding Hawaii), in furtherance of recognized pollution control programs sponsored by: (1) Industrial Silver Company of Fontana, Calif., for the purpose of recovery of waste products containing silver for recycling; (2) National Refining Corporation of Gallatin, Tenn., for the purpose of collection and processing of scrap film and waste silver bearing products; (3) Film Salvage Company of Los Angeles, Calif., for the purpose of recycling used motion picture film; and (4) Consolidated Packers Hide Co. of Potter County, Tex., for the purpose of collecting and processing hides, pelts and skins.

Note.—Protests must be submitted within 20 days after this second Federal Register.

By the Commission.

G. H. Homme, Jr.,
Acting Secretary.

[FR Doc.76–28218 Filed 9–24–76;8:45 am]

[I.C.C. Order No. 175; Rev. S. O. No. 994]

SAN DIEGO & ARIZONA EASTERN RAILWAY CO.

Rerouting or Diversion of Traffic

In the opinion of Lewis R. Teeple, Agent, the San Diego & Arizona Eastern Railway Company is unable to transport traffic over its line between El Centro, California, and San Diego, California, because of slides and washouts between milepost 94.4 and milepost 118.0.

It is ordered, That: (a) The San Diego & Arizona Eastern Railway Company, being unable to transport traffic over its line between El Centro, California and San Diego, California, because of slides and washouts bewteen milepost 94.4 and milepost 118.0, that carrier and its par- and washouts between milepost 94.4 and Transportation Company, are hereby authorized to reroute or divert such traffic via any available route to expedite the movement. The billing covering all such cars rerouted shall carry a reference to this order as authority for the rerouting.

(b) *Concurrence of receiving roads to be obtained.* The railroad desiring to divert or reroute traffic under this order shall receive the concurrence of other railroads to which such traffic is to be diverted or rerouted, before the rerouting or diversion is ordered.

(c) *Notification to shippers.* Each carrier rerouting cars in accordance with this order shall notify each shipper at the time each car is rerouted or diverted and shall furnish to such shipper the new routing provided under this order.

(d) Inasmuch as the diversion or rerouting of traffic is deemed to be due to carrier disability, the rates applicable to traffic diverted or rerouted by said Agent shall be the rates which were applicable at the time of shipment on the shipments as originally routed.

(e) In executing the directions of the Commission and of such Agent provided for in this order, the common carriers involved shall proceed even though no contracts, agreements, or arrangements now exist between them with reference to the division of the rates of transportation applicable to said traffic. Divisions shall be, during the time this order remains in force, those voluntarily agreed upon by and between said carriers; or upon failure of the carriers to so agree, said divisions shall be those hereafter fixed by the Commission in accordance with pertinent authority conferred upon it by the Interstate Commerce Act.

(f) Effective date: This order shall become effective at 3:15 p.m., September 13, 1976.

(g) Expiration date: This order shall expire at 11:59 p.m., September 30, 1976, unless otherwise modified, changed, or suspended.

It is further ordered, That this order shall be served upon the Association of American Railroads, Car Service Division, as agent of all railroads subscribing to the car service and car hire agreement under the terms of that agreement, and upon the American Short Line Railroad Association; and that it be filed with the Director, Office of the Federal Register.

Issued at Washington, D.C., September 13, 1976.

INTERSTATE COMMERCE COMMISSION,
LEWIS R. TEEPLE,
Agent.

[FR Doc.76-28219 Filed 9-24-76;8:45 am]

[AB 55 (Sub-No. 6)]

SEABOARD COAST LINE RAILROAD CO.

Abandonment Between Dupont and Stono in Charleston County, South Carolina

SEPTEMBER 15, 1976.

The Interstate Commerce Commission hereby gives notice that its Environmental Affairs Staff has concluded that the proposed abandonment of the Seaboard Coast Line between Dupont and Stono, a distance of approximately 6.0 miles, all in Charleston County, S. Car., if approved by the Commission, does not constitute a major Federal action significantly affecting the quality of the human environment within the meaning of the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. § 4321, et seq., and that preparation of a detailed environmental impact statement will not be required under section 4332(2) (C) of the NEPA.

It was concluded, among other things, that should the abandonment be approved, diverting the current rail traffic to motor carrier would add approximately three trucks every 2 weeks to the highways of the area and would result in minimal changes in ambient environmental conditions, fuel consumption, and safety hazards. No historic or archaeological site would be affected by the proposed action and no industrial development plans exist that require the continuation of rail service.

Abandonment would permit salvage of the rail bridge over the Stono River thereby removing a potential hazard to navigation in the Intercoastal Waterway and eliminating the need for replacement of the bridge. There is interest in acquisition of the right-of-way for trail or other public uses.

This conclusion is contained in a staff-prepared environmental threshold assessment survey, which is available on request to the Interstate Commerce Commission, Office of Proceedings, Washington, D.C. 20423; telephone 202-275-7011.

Interested persons may comment on this matter by filing their statements in writing with the Interstate Commerce Commission, Washington, D.C. 20423, on or before October 27, 1976.

It should be emphasized that the environmental threshold assessment survey represents an evaluation of the environmental issues in the proceeding and does not purport to resolve the issue of whether the present or future public convenience and necessity permit discontinuance of the line proposed for abandonment. Consequently, comments on the environmental study should be limited to discusion of the presence or absence of environmental impacts and reasonable alternatives.

ROBERT L. OSWALD,
Secretary.

[FR Doc.76-28220 Filed 9-24-76;8:45 am]

[No. 36296]

TUFFLEY & SON, INC. MOTOR EXPRESS

Petition for Declaratory Order

SEPTEMBER 20, 1976.

Notice is hereby given that Tuffley & Son, Inc., Motor Express, petitioner herein, is a motor common carrier located in Syracuse, New York. Petitioner participates in Air Freight Motor Carrier Tariff 40-I, MF-ICC A-2508, issued by Middle Atlantic Conference, Agent; SCM Corporation, of Cortland, N.Y., uses petitioners services in connection with further movement in air carriage. Uncertainty has arisen with respect to the propriety of SCM's practice of preparing a single bill of lading, showing itself as shipper and the air carrier as consignee for consolidated shipments to different ultimate consignees. Attached thereto are several different destination bills of lading for further movement ultimately to these different consignees in various cities and localities.

Petitioner contends that since neither Tuffley nor the air carrier has any published tariff provisions for these shipments of multiple or group shipments or anything of a "pool" nature, these shipments are to be rated individually since these shipments are intended to be forwarded to different consignees in different locations. Otherwise, it is contended that there is nothing to prevent any individual shipper in Cortland, N.Y. from tendering multiple shipments for any one particular interline carrier in Syracuse, N.Y. in the manner already described. Petitioner requests issuance of a declaratory order to remove the uncertainty.

By order served July 26, 1976, petitioner's request was granted and this proceeding was instituted into the matters and issues presented, pursuant to section 554(e) of the Administrative Procedure Act, 5 U.S.C. 554(e) and the Commission's sound discretion thereunder.

Any person interested in any of the matters in the petition may, on or before October 27, 1976, file replies to the petition supporting or opposing the determination sought. An original and eight copies of such replies must be filed with the Commission and must show service on petitioner, Frank J. Stepien, Tuffley & Son, Inc. Motor Express, 365 Sixth North Street, Syracuse, New York 13208. Consistent with the Commission's order served July 26, 1976, the reply by petitioner and any supporting parties shall be due 20 days thereafter. As soon as practicable, the Secretary will serve a participation upon all parties, such participation list shall denote to whom service of all subsequent pleadings herein must be made.

Notice of the filing of said petition-opening statement will be given by publication in the FEDERAL REGISTER.

H. G. HOMME,
Acting Secretary.

[FR Doc.76-28214 Filed 9-24-76;8:45 am]

federal register

MONDAY, SEPTEMBER 27, 1976

PART II:

NUCLEAR REGULATORY COMMISSION

■

PRIVACY ACT OF 1974

Systems of Records

NUCLEAR REGULATORY COMMISSION

PRIVACY ACT OF 1974

Systems of Records

The purpose of this document is to give notice that the systems of records of the Nuclear Regulatory Commission identified in notices published in the Federal Register at 40 FR 38997, 40 FR 40492, 40 FR 44532, 40 FR 45332, 40 FR 46078, 41 FR 1973, 41 FR 5355, 41 FR 5356, 41 FR 11892, 41 FR 17981, 41 FR 20228, 41 FR 24955, and 41 FR 26625, continue in effect. This notice is published in compliance with the requirements of 5 U.S.C. 552a(e)(4) as added by section 3 of the Privacy Act of 1974.

Dated at Bethesda, Maryland this 23rd day of August 1976.

For the Nuclear Regulatory Commission.

Lee V. Gossick,
Executive Director for Operations.

NRC Systems of Records

1. Appointment and Promotion Certificate Records—NRC.
2. Biographical Information Records—NRC.
3. Byproduct Material License Records—NRC.
4. Conflict of Interest Files—NRC.
5. Contracts Records Files—NRC.
6. Development and Advancement for Regulatory Employees (DARE) Records—NRC.
7. Division of Administrative Operations Workload Assignment and Production Records—NRC.
8. Employee Appeals, Grievances and Complaints Records—NRC.
9. Equal Employment Opportunity Records Files—NRC.
10. Freedom of Information Act (FOIA) and Privacy Act Requests Records—NRC.
11. General Personnel Records (Official Personnel Folder and Related Records)—NRC.
12. Government Motor Vehicle Operators license File—NRC.
13. Incentive Awards File—NRC.
14. Medical Records—NRC.
15. National Standards Committee Membership Files—NRC.
16. Facility Operator Licenses Records File (10 CFR Part 55)—NRC.
17. Occupational Injuries and Illness Records—NRC.
18. Office of Inspector and Auditor Index File and Associated Records—NRC.
19. Official Personnel Training Records Files—NRC.
20. Official Travel Records—NRC.
21. Payroll Accounting Records—NRC.
22. Personnel Performance Appraisals—NRC.
23. Personnel Research and Test Validation Records—NRC.
26. Principal Correspondence File—NRC.
27. Radiation Exposure Information and Reports System (REIRS) Files—NRC.
28. Recruiting, Examining and Placement Records—NRC.
30. Regulatory Management System (RMS) Records Files (manpower module only)—NRC.
31. Secretariat Records Facility Files—NRC.
32. Source and Special Nuclear Material Administrative Management Records—NRC.
34. Advisory Committee on Reactor Safeguards (ACRS) Correspondence Index and Associated Records—NRC.
35. Division of Technical Review Employee Work Schedule File—NRC.
36. Employee Locator Records Files—NRC.
37. Information Security Files and Associated Records—NRC.
38. Mailing Lists—NRC.
39. Personnel Security Files and Associated Records—NRC.
40. Protection Support Files and Associated Records—NRC.

These systems of records are those systems maintained by the Nuclear Regulatory Commission which contain personal information about individuals, and from which such information can be retrieved by reference to an individual identified.

The notice for each system of records states the name and location of the record system, the authority for and manner of its operation, the categories of individuals which it covers, the types of records which it contains, the sources of informaton in those records, and the proposed "routine use" of each system of records. Each notice also includes the business address of the NRC official who will inform interested persons of the procedures whereby they may gain access to and correct records pertaining to themselves.

One of the purposes of the Privacy Act, as stated in Section 2(b)(4), is to provide certain safeguards for an individual against an invasion of personal privacy by requiring Federal agencies to ". . . disseminate any record of identifiable personal information in a manner that assures that such action is for a necessary and lawful purpose, that information is current and accurate for its intended use, and that adequate safeguards are provided to prevent misuse of such information." The NRC intends to follow such principles in transferring information to another agency or individual as a "routine use", including assuring that the information is relevant for the purposes for which it is transferred.

Prefatory Statement of General Routine Uses

The following routine uses apply to each system of records notice set forth below which specifically references this Prefatory Statement.

1. In the event that a system of records maintained by the NRC to carry out its functions indicates a violation or potential violation of law, whether civil, criminal or regulatory in nature, and whether arising by general statute or particular program statute, or by regulation, rule or order issued pursuant thereto, the relevant records in the system of records may be referred, as a routine use, to the appropriate agency, whether Federal, State, or local, charged with the responsibility of investigating or prosecuting such violation or charged with enforcing or implementing the statute, or rule, regulation or order issued pursuant thereto.

2. A record from this system of records may be disclosed, as a routine use, to a Federal, State or local agency maintaining civil, criminal or other relevant enforcement information or other pertinent information, such as current licenses, if necessary to obtain information relevant to a NRC decision concerning the hiring or retention of an employee, the issuance of a security clearance, the letting of a contract, or the issuance of a license, grant or other benefit.

3. A record from this system of records may be disclosed, as a routine use, to a federal agency, in response to its request, in connection with the hiring or retention of an employee, the issurance of a security clearance, the reporting of an investigation of an employee, the letting of a contract, or the issuance of a license, grant, or other benefit by the requesting agency, to the extent that the information is relevant and necessary to the requesting agency's decision on the matter.

4. A record from this system of records may be disclosed as a routine use, in the course of discovery and in presenting evidence to a court, magistrate or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

5. Disclosure may be made to a congressional office from the record of an individual in response to an inquiry from the congressional office made at the request of that individual.

NRC—1

System name: Appointment and Promotion Certificate Records—NRC

System location: Division of Organization and Personnel, Office of Administration, NRC, 7915 Eastern Avenue, Silver Spring, Maryland.

Categories of individuals covered by the system: Candidates for employment and NRC employees who are being considered for promotion and reassignment.

Categories of records in the system: This system of records contains personnel qualifications statements, job descriptions, the results of reference checks, supervisory evaluation forms, and performance appraisals.

Authority for maintenance of the system:

a. 5 U.S.C. 1302.

b. Sec. 161(d), Atomic Energy Act of 1954, as amended, 42 U.S.C. 2201(d).

Routine uses of records maintained in the system, including categories of users and the purposes of such uses: These records may be used:

a. To prepare reports for the Civil Service Commission;

b. By the Civil Service Commission to resolve complaints and grievances regarding employment and promotion selection;

c. For audit and review by the Civil Service Commission; and

d. For any of the routine uses specified in the Prefatory Statement.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage: Paper records maintained in file folders.

Retrievability: Information accessed by numbers associated with names contained in the General Personnel Records files.

Safeguards: Records are maintained in locked file drawers and access is limited to those persons whose official duties require such access and to individuals who have complaints or grievances regarding selections. Personnel screening is employed to prevent unauthorized disclosure.

Retention and disposal: Active records retained two years after selection. Inactive records are destroyed.

System manager(s) and address:

Chief, Personnel Operations Branch
Division of Organization and Personnel
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Notification procedure:

Director, Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Record access procedures: Same as "Notification procedure."

Contesting record procedures: Same as "Notification procedure."

Record source categories: Individual on whom the record is maintained, individual's current and previous supervisors, references, general personnel records (Official Personnel Folders and related records), and other Federal agencies.

NRC—2

System name: Biographical Information Records—NRC

System location: Primary system—Office of Public Affairs, NRC, 7920 Norfolk Avenue, Bethesda, Maryland.

Duplicate systems—duplicate systems exist, in whole or in part, at the locations listed in Addendum I, Part 1(b) and (e).

Categories of individuals covered by the system: Commissioners, members of the Atomic Safety and Licensing and Appeal Board Panels, and senior NRC staff members.

Categories of records in the system: These records contain information relating to education and training, and employment history, and other general biographical data relating to the Commissioners, members of the Atomic Safety and Licensing Board and Appeal Board Panels, and senior NRC staff members.

Authority for maintenance of the system:

a. Sections 201, 203(a), 204(a), 205(a), 209, Energy Reorganization Act of 1974, 42 U.S.C. 5841, 5843(a), 5844(a), 5845(a), 5849;

b. Section 191, Atomic Energy Act of 1954, as amended, 42 U.S.C. 2241;

c. For the routine use specified in paragraph number 5 of the Prefatory Statement.

Routine uses of records maintained in the system, including categories of users and the purposes of such uses: Information in these records may be used:

a. To provide information to the press;

b. To provide information to other persons and agencies requesting this information;

c. For the routine use specified in paragraph number 5 of the Prefatory Statement.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage: Records are maintained in file folders.

Retrievability: Records are accessed by name.

Safeguards: Access to and use of these records are limited to those persons whose official duties require such access.

Retention and disposal: Stored indefinitely or until association with NRC is discontinued.

System manager(s) and address:

Director, Office of Public Affairs
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Notification procedure:

Director, Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Record access procedures: Same as "Notification procedure."

Contesting record procedures: Same as "Notification procedure."

Record source categories: Information in this system of records is provided by each individual or from personnel records, rewritten by the Office of Public Affairs, and approved for use by the individual involved.

NRC—3

System name: Byproduct Material License Records—NRC

System location: Primary system—Division of Fuel Cycle and Material Safety, Office of Nuclear Material Safety and Safeguards, NRC, 7735 Old Georgetown Road, Bethesda, Maryland.

Duplicate systems—duplicate systems exist, in whole or in part, at the locations listed in Addendum I, Part 2.

Categories of individuals covered by the system: Applicants and licensees (active and inactive) for byproduct materials licenses.

Categories of records in the system: Information contained in this system reflects data supplied by applicants and licensees and developed by the NRC staff in the license review and authorization process with respect to the possession and use of byproduct material. System component records developed and maintained by the NRC staff also include summary and index type data promoting quick access to and breakout of such information as:

a. Alphabetical listings of active and inactive license and applicants for licenses arranged by state and by a master listing;
b. Cross indexes of names to assigned license numbers;
c. Dates of license issuance and expiration; and
d. Geographic location of licensees by state and town.

Authority for maintenance of the system: Sec. 161(o), Atomic Energy Act of 1954, as amended, 42 U.S.C. 2201(o).

Routine uses of records maintained in the system, including categories of users and the purposes of such uses: Information in these records may be used:

a. To provide records to state health departments for their information and use;

b. To provide information to Federal, state and local health officials, and other persons in the event of incident or exposure, for purposes of their information, investigation and protection of public health and safety; and

c. For any of the routine uses specified in the Prefatory Statement.

In addition, certain of the information provided in this category is routinely placed in the NRC's Public Document Room.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage: Records are maintained in correspondence and NRC forms and in such physical media as card systems, logs, computer tapes and printouts, punch tape and microfilm.

Retrievability: System data is indexed by licensee/applicant name within state; alphabetically by licensee name within license expiration time periods; by assigned license number in juxtaposition with licensee name.

Safeguards: Records contained in standard filing equipment under visual control of files supervisor within a security patrolled building; access to records limited to technical and administrative personnel of the division possessing security clearances.

Retention and disposal: Records are continuously changed or amended as new information is developed or individual licenses are cancelled or terminated; license files are transferred to Federal Records Center in Suitland, Maryland when they become inactive or are terminated. Obsolete data, except for record copy maintained at Federal Records Centers, is destroyed by waste paper incineration.

System manager(s) and address:

Director, Division of Fuel Cycle and Material Safety
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Notification procedure:

Director, Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Record access procedures: Same as "Notification procedure."

Contesting record procedures: Same as "Notification procedure."

Record source categories: Data supplied by applicants and licensees and developed by NRC technical staff.

NRC—4

System name: Conflict of Interest Files—NRC

System location: Primary system—Office of the General Counsel, NRC, 4350 East West Highway, Bethesda, Maryland.

Duplicate systems—duplicate systems exist, in whole or in part, at the locations listed in Addendum I, Part 1 (b), (c), (e), (f) and (i).

Categories of individuals covered by the system: Persons who are employees, special employees and consultants of NRC.

Categories of records in the system: These records contain information relating to:

a. General biographical data (i.e., name, birthdate, home address, position title, home and business telephone, citizenship, educational history, employment history, professional society membership, honors, fellowships received, publications, licenses, and special qualifications;

b. Financial status (i.e., nature of financial interests and in whose name held, creditors, character of indebtedness, interest in real property, monthly U.S. Civil Service Annuity, and status as Uniformed Services Retired Officer;

c. Determination (i.e., no conflict or apparent conflict of interest, questions requiring resolution, steps taken toward resolution; and

d. Information pertaining to appointment (i.e., proposed period of NRC service, estimated number of days of NRC employment during period of service, proposed pay, clearance status, description of services to be performed and explanation of need for the services, justification for proposed pay, description of expenses to be reimbursed and dollar limitation, and description of government-owned property to be in possession of appointee).

Authority for maintenance of the system:

a. 18 U.S.C. 201.

b. Executive Order 11222, May 8, 1965.

Routine uses of records maintained in the system, including categories of users and the purposes of such uses: Information in these records may be used:

a. To allow the Commission, its counselor, or deputy counselors to determine whether employee's financial interests or non-governmental employment might involve them in actual or potential conflicts of interest under applicable Federal laws, Commission regulations, and/or Executive Orders;

b. To provide the U.S. Department of Justice and the U.S. Civil Service Commission with information concerning an employee in instances where this office has reason to believe a Federal law may have been violated or where this office desires the advice of the Department or the Commission concerning potential violations of Federal law;

c. To serve as evidence in any court proceeding or in any Commission proceeding, adjudication or other determination;

d. For the routine use specified in paragraph number 5 of the Prefatory Statement.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage: Records are maintained in file folders.

Retrievability: Records are accessed by name.

Safeguards: Records are secured in a repository.

Retention and disposal: Retained in office file for two years after employee leaves position in which statement is required, or for two years after separation, whichever is earlier, then destroyed as waste disposal.

System manager(s) and address:

General Counsel
Office of the General Counsel
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Notification procedure:

Director, Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Record access procedures: Same as "Notification procedure."

Contesting record procedures: Same as "Notification procedure."

Record source categories: Information in this system of records either comes from the individual to whom it applies, or is derived from information he or she supplied, or comes from the office to which the individual is to be assigned.

NRC—5

System name: Contracts Records Files—NRC

Pursuant to 5 U.S.C. 552a(k)(1) and (5), the Commission has exempted portions of this system of records from 5 U.S.C. 552a(c)(3), (d), (e)(1), (e)(4)(G), (H), and (I), and (f). The exemption rule is contained in Section 9.95 of the NRC regulation (10 CFR 9.95).

System location: Primary system—Division of Contracts, NRC, 7915 Eastern Aven, Silver Spring, Maryland.

Duplicate systems—duplicate systems exist, in whole or in part, at locations listed in Addendum I, Part 1 (b), (c), (d), (e), and (f) and Part 2.

Categories of individuals covered by the system: Persons who are employed as NRC consultants or contractors.

Categories of records in the system: These records contain personal information (such as technical qualifications, education, rates of pay, employment history) of contractors and their employees, and other contracting records.

Authority for maintenance of the system: a. Sections 31 and 161, Atomic Energy Act of 1954, as amended, 42 U.S.C. 2051 and 2201.

b. Section 205, Energy Reorganization Act of 1974, 42 U.S.C. 5845.

Routine uses of records maintained in the system, including categories of users and the purposes of such uses: Information in these records may be used:

a. To provide information to Department of Health, Education and Welfare, Defense Contract Audit agency and other Federal agencies for audits and reviews; and

b. For any of the routine uses specified in the Prefatory Statement.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage: Records are maintained in file folders.

Retrievability: Records are accessed by contract number, purchase order number, and name of consultant, contractor, or vendor.

Safeguards: Access to and use of these records are limited to those persons whose official duties require such access.

Retention and disposal: Retained while active; transferred to Federal Records Center after three years of inactivity.

System manager(s) and address:

Director, Division of Contracts
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Notification procedure:

Director, Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Record access procedures: Same as "Notification procedure." Some information is classified pursuant to Executive Order 11652 and will not be disclosed. Some information was received in confidence and will not be disclosed to the extent that disclosure would reveal a confidential source.

Contesting record procedures: Same as "Notification procedure."

Record source categories: Information in this system of records comes from the contractor or potential contractor.

NRC—6

System name: Development and Advancement for Regulatory Employees (DARE) Records—NRC

Pursuant to 5 U.S.C. 552a(k)(5) and (6), the Commission has exempted portions of this system of records from 5 U.S.C. 552a(c)(3), (d), (e)(1), (e)(4)(G), (H), and (I), and (f). The exemption rule is contained in Section 9.95 of the NRC regulation (10 CFR 9.95).

System location: Division of Organization and Personnel, Office of Administration, NRC, 7915 Eastern Avenue, Silver Spring, Maryland.

Categories of individuals covered by the system: NRC employees who desire to enhance their training and experience qualifications for movement into administrative, paraprofessional and professional ranks.

Categories of records in the system: This system of records contains personnel qualification statements, job descriptions, self-evaluation forms, examination results, supervisory evaluation forms, performance appraisals, DARE counselors' reports, training guides, course plans and related correspondence.

Authority for maintenance of the system:

a. 42 U.S.C. 2000e.

b. Section 401, Energy Reorganization Act of 1974, 42 U.S.C. 5871.

c. Executive Order 11478, August 8, 1969.

Routine uses of records maintained in the system, including categories of users and the purposes of such uses: These records may be used:

a. To prepare reports for transmittal to the Civil Service Commission pursuant to applicable requirements; and

b. For any of the routine uses specified in the Prefatory Statement.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage: Paper records maintained in file folders.

Retrievability: Information accessed by name.

Safeguards: Records are maintained in locked desk drawer and access is limited to those persons whose official duties require such access. Personnel screening is employed to prevent unauthorized disclosure.

Retention and disposal: Active records retained indefinitely. Inactive records of DARE participants transferred to National Record Center, St. Louis, Missouri. Records of nonselected DARE applicants destroyed.

System manager(s) and address:

a. DARE Program Coordinator
Division of Organization and Personnel
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

b. Director, Office of Equal Employment Opportunity
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

c. Chief, Labor Management and Employee Relations Branch
Division of Organization and Personnel
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Notification procedure:

Director, Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Record access procedures: Same as "Notification procedure." Some information was received in confidence and will not be disclosed to the extent that disclosure would reveal a confidential source. Testing material may not be disclosed to the extent such disclosure would compromise the testing process.

Contesting record procedures: Same as "Notification procedure."

Record source categories: Individual on whom the record is maintained, individual's current and previous supervisors within and outside NRC, and the DARE counselors and program coordinator.

NRC—7

System name: Division of Document Control Workload Assignment and Production Records—NRC

System location: Division of Document Control units are located in the following buildings:

a. Phillips Building, 7920 Norfolk Avenue, Bethesda, Maryland

b. Nicholson Lane Building, 5650 Nicholson Lane, Rockville, Maryland

c. East West Towers Building, 4350 East West Highway, Bethesda, Maryland

d. Maryland National Bank Building, 7735 Old Georgetown Road, Bethesda, Maryland

Categories of individuals covered by the system: NRC employees assigned to word processing and printing/reproduction and graphic units.

Categories of records in the system: These records contain, under employee name, listings of work assignments and individual production records.

Authority for maintenance of the system:

a. Section 161(d), Atomic Energy Act of 1954, as amended, 42 U.S.C. 2201(d).

b. 31 U.S.C. 21, 22, 24, 49, 54, and 66a.

Routine uses of records maintained in the system, including categories of users and the purposes of such uses: Information in these records may be used by the Division of Document Control for any of the routine uses specified in the Prefatory Statement.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage: Maintained on form and log sheet format.

Retrievability: Indexed by employee name within period reports.

Safeguards: Files relating to comparative employee production and analysis thereof are maintained in locked cabinets. Budgetary and staffing projection data maintained in locked and unlocked equipment. All files under immediate control of supervisory staff although employees are allowed access to their own production records.

Retention and disposal: Records are retained in office files for two years and are then destroyed by waste incineration.

System manager(s) and address:

Director
Division of Document Control
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Notification procedure:

Director, Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Record access procedures: Same as "Notification procedure."

Contesting record procedures: Same as "Notification procedure."

Record source categories: Individual employees; supervisory assignment and analysis records.

NRC—8

System name: Employee Appeals, Grievances and Complaints Records—NRC

System location: Division of Organization and Personnel, Office of Administration, NRC, 7915 Eastern Avenue, Silver Spring, Maryland.

Categories of individuals covered by the system: Applicants for NRC employment, current and former NRC employees, and annuitants who have filed complaints or initiated grievance or appeal proceedings as a result of a determination made by the NRC, the Civil Service Commission, or a Board or other entity established to adjudicate such grievances and appeals.

Categories of records in the system: This file includes all documents related to grievances, arbitrations, negative determinations regarding within-grade salary increases and exit interviews. It contains information relating to determinations affecting individuals made by the NRC or the Civil Service Commission. The records consist of the initial appeal or complaint, letters or notices to the individual, record of hearings when conducted, materials placed into the record to support the decision or determination, affidavits or statements, testimony of witnesses, investigative reports, instructions to an NRC office or division concerning action to be taken to comply with decisions, and related correspondence, opinions and recommendations.

Authority for maintenance of the system: Sec. 161(d), Atomic Energy Act of 1954, as amended, 42 U.S.C. 2201(d).

Routine uses of records maintained in the system, including categories of users and the purposes of such uses: The records may be used:

a. To furnish information to the Civil Service Commission pursuant to applicable requirements relative to grievances and appeals;

b. To provide appropriate data to union representatives and third parties in connection with grievances, arbitration actions and appeals. Third parties may include the Federal Service Impasses Panel, Department of Labor and Federal Labor Relations Council; and

c. For any of the routine uses specified in the Prefatory Statement.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage: These records are maintained in file folders, binders, and index cards.

Retrievability: These records are indexed by the names of the individuals on whom they are maintained.

Safeguards: Access to and use of these records are limited to those persons whose official duties require such access. Personnel screening is employed to prevent unauthorized disclosure.

Retention and disposal: The records are maintained up to two years and are then transferred to the National Personnel Records Center, St. Louis, Missouri. They are destroyed by the Federal Records Center when the records are 7 years old.

System manager(s) and address:

Chief, Labor Management and Employee Relations Branch
Division of Organization and Personnel
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Notification procedure:

Director, Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Record access procedures: Same as "Notification procedure." Some information was received in confidence and will not be disclosed to the extent that disclosure would reveal a confidential source.

Contesting record procedures: Same as "Notification procedure."

Record source categories: Individuals to whom the record pertains; NRC and/or Civil Service Commission officials; affidavits or statements from employees, union representatives, or other persons; testimony of witnesses; and official documents relating to the appeal, grievance, or complaint, Official Personnel Folder, and other Federal agencies.

NRC—9

System name: Equal Employment Opportunity Records Files—NRC

Pursuant to 5 U.S.C. 552a(k)(5), the Commission has exempted portions of this system of records from 5 U.S.C. 552a(c)(3), (d), (e)(1), (e)(4)(G), (H), and (I), and (f). The exemption rule is contained in Section 9.95 of the NRC regulation (10 CFR 9.95).

System location: Office of Equal Employment Opportunity, NRC, 7735 Old Georgetown Road, Bethesda, Maryland.

Categories of individuals covered by the system: Applicants for NRC employment and current and former NRC employees who have filed a complaint of discrimination with the Office of Equal Employment Opportunity or the Equal Employment Opportunity Officer.

Categories of records in the system: This system of records contains copies of written reports by counselors; the investigative file; documentation of withdrawn, cancelled, rejected and/or adjusted discrimination complaints; complainant's name, title and grade; kind of discrimination alleged; description of action, decision, or condition giving rise to the complaint; description of remedial action; description of disciplinary action, if any; and copy of the letter of proposed disposition of the complaint and right to a hearing; and record of appeals examiner's finding, analysis, and recommended decision.

Authority for maintenance of the system:

a. 42 U.S.C. 2000e.

b. Section 401, Energy Reorganization Act of 1974, 42 U.S.C. 5891.

c. Executive Orders 11246, Sept. 24, 1965; 11375, Oct. 13, 1967; and 11478, Aug. 8, 1969.

Routine uses of records maintained in the system, including categories of users and the purposes of such uses:

a. Information relative to EEO matters furnished to the Civil Service Commission in accordance with applicable requirements.

b. The records may be used for any of the routine uses specified in the Prefatory Statement.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage: These records are maintained in file folders, binders, and index cards.

Retrievability: Accessed by name.

Safeguards: Access to and use of these records are limited to those persons whose official duties require such access. Records are maintained in locked file cabinets.

Retention and disposal: Retained indefinitely.

System manager(s) and address:

Director
Office of Equal Employment Opportunity
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Notification procedure:

Director, Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Record access procedures: Same as "Notification procedure." Some information was received in confidence and will not be disclosed to the extent that disclosure would reveal a confidential source.

Contesting record procedures: Same as "Notification procedure."

Record source categories: Individual to whom the record pertains, counselors, NRC and/or Civil Service Commission officials, affidavits or statements from employees, testimony of witnesses, and official documents relating to the complaints.

NRC—10

System name: Freedom of Information Act (FOIA) and Privacy Act Requests Records—NRC

System location: Division of Rules and Records, Office of Administration, NRC, 7735 Old Georgetown Road, Bethesda, Maryland.

Categories of individuals covered by the system: Persons who have made FOIA or Privacy Act requests for NRC records.

Categories of records in the system: This system contains a copy of the letter from the requester, the NRC response, and related documents.

Authority for maintenance of the system:

a. 5 U.S.C. 552.

b. 5 U.S.C. 552a.

Routine uses of records maintained in the system, including categories of users and the purposes of such uses: Information in these records may be used:

a. If an appeal or Court suit is filed with respect to any records denied;

b. For preparation of annual reports required by 5 U.S.C. 552 and 5 U.S.C. 552a;

c. For any of the routine uses specified in the Prefatory Statement.

In addition, some of the FOIA records are placed in the Public Document Room and made available to the public.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage: Records are maintained in file folders.

Retrievability: Records are filed under individual names.

Safeguards: Records are located in lockable metal file cabinets in areas where access is limited to those whose official duties require access. Copies of some of the FOIA records are publicly available in the NRC Public Document Room.

Retention and disposal: The records are retained until no longer needed, then destroyed.

System manager(s) and address:

Director, Division of Rules and Records
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Notification procedure:

Director, Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Record access procedures: Same as "Notification procedure."

Contesting record procedures: Same as "Notification procedure."

Record source categories: Requests are made by individuals or other requesters. The response to the request is based upon information contained in NRC records.

NRC—11

System name: General Personnel Records (Official Personnel Folder and Related Records)—NRC

Pursuant to 5 U.S.C. 552a(k)(5) and (6), the Commission has exempted portions of this system of records from 5 U.S.C. 552a(c)(3), (d), (e)(1), (e)(4)(G), (H), and (I), and (f). The exemption rule is contained in Section 9.95 of the NRC regulation (10 CFR 9.95).

System location: Primary system—Division of Organization and Personnel, Office of Administration, NRC, 7915 Eastern Avenue, Silver Spring, Maryland.

Duplicate systems—duplicate systems exist, in whole or in part, at the locations listed in Addendum I, Parts 1 and 2. The duplicate systems may contain information of specific applicability to a particular office in addition to that information contained in the primary system.

Categories of individuals covered by the system: Current NRC employees, consultants, and those formerly employed by the NRC (death, resignation, retirement, and separation).

Categories of records in the system: These records contain information about an individual's birth date, social security account number, veteran preference status, tenure, physical handicaps, past and present salaries, grades, position titles, training, test performance, minority group designator, life insurance, health benefits, beneficiaries, performance ratings and awards. These records also contain letters of commendation and reprimand, documentation of charges and decisions on charges, notices of reductions-in-force, locator files; information related to personnel actions, including but not limited to appointment, reassignment, demotion, detail, promotion, transfer, and separation; and data documenting the reasons for personnel actions or decisions made about an individual related to the status of the individual. Some duplicate records may contain office-related employee performance evaluations, office-specific applications, personnel qualification statements (SF-171), resumes and applicant evaluations and intra-office conflict of interest correspondence, in addition to that contained in the primary system.

Authority for maintenance of the system:

a. Section 161(d), Atomic Energy Act of 1954, as amended, 42 U.S.C. 2201(d).

b. Executive Order 10561, September 15, 1954.

Routine uses of records maintained in the system, including categories of users and the purposes of such uses: Information in these records may be used:

a. By the Civil Service Commission for making a decision when an NRC employee or former NRC employee questions the validity of a specific document in an individual's record;

b. To provide information to a prospective employer of a Government employee. Upon transfer of the employee to another Federal agency, the information is transferred to such agency;

c. To update the following Civil Service Commission systems: Federal Automated Career Systems (FACS), Executive Inventory File and security investigations index hires, adverse actions, and terminations;

d. To provide statistical reports to Congress, agencies, and the public on characteristics of the Federal work force;

e. To provide information to the Civil Service Commission for review and audit purposes;

f. To provide members of the public with the names, position titles, grades, salaries, appointments (temporary or permanent) and duty stations of employees; and

g. For any of the routine uses specified in the Prefatory Statement.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage: Records are maintained in file folders, magnetic tape, disk, punched cards and microfilm.

Retrievability: Records are indexed by any combination of name, birth date, social security account number, or identification number.

Safeguards: Records are located in lockable metal file cabinets, electro-mechanical file organizer, or in metal file cabinets in areas with access limited to those whose official duties require access.

Retention and disposal: The Official Personnel Folder is sent to the National Personnel Records Center within 30 days of the date of the employee's separation from the Federal service. Some records such as letters of reprimand, indebtedness, and vouchers are maintained for two years or destroyed when an individual resigns, transfers, or is separated from the Federal service. SF-7, 'Service Record Card', retained indefinitely.

System manager(s) and address:

Chief, Personnel Operations Branch
Division of Organization and Personnel
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Notification procedure:

Director, Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Record access procedures: Same as "Notification procedure." Some information was received in confidence and will not be disclosed to the extent that disclosure would reveal a confidential source. Testing material may not be disclosed to the extent that disclosure would compromise the testing process.

Contesting record procedures: Same as "Notification procedure."

Record source categories: Information in this system of records comes from the individual to whom it applies, is derived from information supplied by that individual, or is provided by agency officials, other Federal agencies, or persons, including references.

NRC—12

System name: Government Motor Vehicle Operators License File—NRC

System location: Primary system—Division of Facilities and Operations Support, Office of Administration, NRC, 7920 Norfolk Avenue, Bethesda, Maryland.

Duplicate systems—duplicate systems exist, in whole or in part, at the locations listed in Addendum I, Part 2.

Categories of individuals covered by the system: NRC Headquarters and Regional Office employees licensed to drive government vehicles.

Categories of records in the system: These records contain identifying data on individuals, including but not limited to name, social security account number, hair color, and sex.

Authority for maintenance of the system:

a. 40 U.S.C. 491.

b. E.O. 10579, December 1, 1954.

Routine uses of records maintained in the system, including categories of users and the purposes of such uses: The records may be used for any of the routine uses specified in the Prefatory Statement.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage: Maintained on 5 x 8' cards.

Retrievability: Indexed alphabetically by employee name.

Safeguards: Maintained under visual control of supervisors in security protected buildings with usage restricted to supervisory personnel.

Retention and disposal: Records are retained in office files for 3 years or until cancellation of individual licenses, and then destroyed.

System manager(s) and address:

Chief, Building and Operations Branch
Division of Facilities and Operations Support
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Notification procedure:

Director, Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Record access procedures: Same as "Notification procedure."

Contesting record procedures: Same as "Notification procedure."

Record source categories: Individuals on whom the record is maintained and medical examiners.

NRC—13

System name: Incentive Awards File—NRC

System location: Division of Organization and Personnel, Office of Administration, NRC, 7915 Eastern Avenue, Silver Spring, Maryland.

Categories of individuals covered by the system: NRC employees who merit special recognition for achievements either within or outside the employee's job responsibilities and for length of service to the Government.

Categories of records in the system: This system of records contains employee's name, title, grade, and salary; justification to support recommendation and authorization for cash award; actions by approving officials; record of individuals receiving awards; suggestions and evaluations of suggestions; citation to be used; and related correspondence.

Authority for maintenance of the system:

a. 5 U.S.C. 4501-4506.
b. 5 U.S.C. 5336.

Routine uses of records maintained in the system, including categories of users and the purposes of such uses: The records may be used:

a. By the Civil Service Commission to process and approve nominations for awards;
b. By the Offices of the Attorney General and the President of the United States in reviewing recommended awards;
c. To make reports to the Civil Service Commission;
d. By other government agencies to recommend whether suggestions should be adopted in instances where the suggestion made by an NRC employee affects the functions or responsibilities of the agencies; and
e. For any of the routine uses specified in the Prefatory Statement.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage: Paper records maintained in file folders and stored in metal file cabinets.

Retrievability: Information is accessed by name.

Safeguards: Records are maintained in unlocked metal file cabinets. The area is accessible only to authorized personnel who are properly screened, cleared and trained and whose duties require them to be in the area.

Retention and disposal: Records are maintained for a two year period and then transferred to the National Personnel Records Center, St. Louis, Missouri.

System manager(s) and address:

Chief, Labor Management and Employee Relations Branch
Division of Organization and Personnel
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Notification procedure:

Director, Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Record access procedures: Same as "Notification procedure."

Contesting record procedures: Same as "Notification procedure."

Record source categories: Supervisors of employees, individuals submitting suggestions, evaluators of suggestions, Division of Organization and Personnel staff, Civil Service Commission, Official Personnel Folders, and other Federal agencies.

NRC—14

System name: Medical Records—NRC

System location: Primary system—Division of Organization and Personnel, Office of Administration, NRC, 7915 Eastern Avenue, Silver Spring, Maryland.

Duplicate systems—duplicate systems exist, in whole or in part, at the locations listed in Addendum I, Part 2.

Categories of individuals covered by the system: Current and former NRC employees.

Categories of records in the system: This system of records contains information and documents relating to: a medical decision or determination made by the NRC or by another Federal agency; an individual's medical qualifications to hold a position in the Federal Government; an individual's capability (physical and mental) to satisfactorily perform the duties of a position; an employee's participation in an occupational health services program; and an employee's participation in the Federal Civil Employee Alcoholism and Drug Abuse Program.

Authority for maintenance of the system:

a. 5 U.S.C. 7901.
b. 42 U.S.C. 4561.
c. 21 U.S.C. 1180.

Routine uses of records maintained in the system, including categories of users and the purposes of such uses: Information in these records may be provided to the Public Health Service in connection with Health Maintenance Examinations and to other Federal agencies responsible for Federal benefit programs administered by:

a. Office of Workmen's Compensation Programs (Dept. of Labor); and
b. Civil Service Commission.

These records may also be used for any of the routine uses specified in the Prefatory Statement.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage: Records are maintained in folders.

Retrievability: Records are indexed by name.

Safeguards: Access to and use of these records are limited to those persons whose official duties require such access. Personnel screening is employed to prevent unauthorized disclosure.

Retention and disposal:

a. Medical certificates and other medical records of examination used to determine an employee's fitness for a job: Forwarded to the individual's new agency, and transferred to the National Personnel Records Center upon an employee's separation from the Federal service, where they are destroyed after 75 years.
b. Miscellaneous medical records, correspondence, dispensary records, and similar papers: Destroyed upon an employee's separation from the agency.

System manager(s) and address:

Chief, Personnel Operations Branch
Division of Organization and Personnel
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Notification procedure:

Director, Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Record access procedures: Same as "Notification procedure."

Contesting record procedures: Same as "Notification procedure."

Record source categories:

a. The individual to whom the record pertains.
b. Private and Federal physicians.
c. Medical institutions.
d. Veterans Administration Pension Benefits Program.
e. Office of Workmen's Compensation Programs.

NRC—15

System name: National Standards Committee Membership Files—NRC

System location: Office of Standards Development, NRC, 5650 Nicholson Lane, Rockville, Maryland.

Categories of individuals covered by the system: NRC employees who are serving on committees, subcommittees, working groups, etc., that are developing nuclear standards.

Categories of records in the system: This system is a comprehensive record of NRC personnel on the nuclear standards committees and contains members' names and the names of the committees to which they belong.

Authority for maintenance of the system: Section 161(b), Atomic Energy Act of 1954, as amended, 42 U.S.C. 2201(b).

Routine uses of records maintained in the system, including categories of users and the purposes of such uses: These records may be used:

a. To provide information to persons or agencies requesting this information; and
b. For the routine use specified in paragraph number 5 of the Prefatory Statement.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage: Records are maintained on forms, lists and index cards in file folders.

Retrievability: Records are indexed by the individual's name, by the technical or professional society developing the standard, and by the title of the standard.

Safeguards: Open access.

Retention and disposal: Updated when information is out of date.

System manager(s) and address:

Director
Office of Standards Development
U.S. Nuclear Regulatory Commission

Washington, D.C. 20555

Notification procedure:

Director, Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Record access procedures: Same as "Notification procedure."

Contesting record procedures: Same as "Notification procedure."

Record source categories: Information in this system of records comes from the individual to whom it applies or from his supervisor.

NRC—16

System name: Facility Operator Licensees Records File (10 CFR Part 55)—NRC.

System location: a. Reactor Operator Licensees Records—

Primary system: Operating Licensing Branch, Division of Project Management, Office of Nuclear Reactor Regulation, NRC, 7920 Norfolk Avenue, Bethesda, Maryland.

Duplicate systems: Duplicate systems exist, in whole or in part, at the location listed in Addendum I, Part I(j).

b. Fuel reprocessing Operator Licensees Records—

Fuel Reprocessing and Recycle Branch, Division of Fuel Cycle and Material Safety, Office of Nuclear Material Safety and Safeguards, NRC, 7735 Old Georgetown Road, Bethesda, Maryland.

Categories of individuals covered by the system: Individuals licensed pursuant to 10 CFR Part 55, new applicants whose applications are being processed, and individuals whose licenses have expired.

Categories of records in the system: These records contain information relating to the application for a license, certification of competency, certification of medical history and results of medical examination and related correspondence, operator examination and examination results, and license or denial letter.

Authority for maintenance of the system: Sections 107, 161(i), Atomic Energy Act of 1954, as amended, 42 U.S.C. 2137, and 2201(i).

Routine uses of records maintained in the system, including categories of users and the purposes of such uses: Information in these records may be used:

a. To determine if the individual meets the requirements of 10 CFR Part 55 to take an examination or to be issued an operator's license;

b. For any of the routine uses specified in the Prefatory Statement, except paragraph number 3;

c. To provide researchers with information for statistical evaluations related to selections, training and examination of facility operators; and

d. To provide for examination and testing material and obtain results from contractors.

In addition, information related to the application, certification of competency, and license or denial letter will routinely be made available in the NRC's Public Document Room.

In addition, information related to the application, certification of competency, and license or denial letter will routinely be made available in the NRC's Public Document Room.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage: Records are maintained on paper in file folders.

Retrievability: Records are accessed by name and docket number.

Safeguards: Access to and use of these records are limited to those persons whose official duties require such access.

Retention and disposal: Reactor Operator Licensees Records:

a. Medical information: retained for four years after the individual's license expires, then destroyed.

b. Examination and examination results: retained for two years after the issuance of a license or denial letter. A summary report is retained until four years after the individual's license expires.

c. Other information: destroyed when it becomes two years old.

d. Docket information: destroyed four years after an individual's latest license expires.

Fuel Reprocessing Operator Licensees Records—

Stored indefinitely until no longer needed, then destroyed.

System manager(s) and address: Reactor Operator Licensees Records:

Chief, Operator Licensing Branch
Division of Project Management
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Fuel Reprocessing Operator Licensees Records—
Chief, Fuel Reprocessing and Recycle Branch
Division of Fuel Cycle and Material Safety
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Notification procedure: Director, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

Record access procedures: Same as "Notification procedure."

Contesting record procedures: Same as "Notification procedure."

Record source categories: Information in this system of records either comes from the individual applying for a license, the facility manager, a licensed physician, members of the Operator Licensing Branch or the Fuel Reprocessing and Recycle Branch, or contractor personnel.

NRC—17

System name: Occupational Injuries and Illness Reports—NRC

System location: Building and Operations Branch, Division of Facilities and Operations Support, Office of Administration, NRC, 7920 Norfolk Avenue, Bethesda, Maryland.

Categories of individuals covered by the system: All NRC employees.

Categories of records in the system: These records contain descriptions of injury or illness, treatment, and disposition.

Authority for maintenance of the system:

a. 29 U.S.C. 657(c).

b. E.O. 11612, July 26, 1971.

Routine uses of records maintained in the system, including categories of users and the purposes of such uses: Information in these records may be used:

a. By the NRC Safety Officer and/or Branch supervisor, to prepare periodic statistical reports on employees' health and injury status and health and safety hazards in NRC physical structures, all for transmission to and review by the Department of Labor;

b. For transmittal to the Secretary of Labor or his authorized representative in accordance with duly promulgated regulations;

c. For transmittal to Civil Service Commission as required to support individual claims; and

d. For any of the routine uses specified in the Prefatory Statement.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage: Maintained in paper copy on form stock.

Retrievability: Indexed by assigned employee case number or name under report category.

Safeguards: Housed in locked file cabinet under visual observation of section employees. Use of information is restricted to NRC Health and Safety personnel and authorized representatives of the Secretary of the Department of Labor.

Retention and disposal: Records are retained in office files for 6 years after date of report and are then destroyed by waste incineration.

System manager(s) and address:

Director, Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Notification procedure: Same as "System manager."

Record access procedures: Same as "System manager."

Contesting record procedures: Same as "System manager."

Record source categories: NRC Public Health Unit, NRC Headquarters and Regional Office feeder reports and forms with original information largely supplied by employees concerned.

NRC—18

System name: Office of Inspector and Auditor Index File and Associated Records—NRC

Pursuant to 5 U.S.C. 552a(k)(1), (k)(2) and (k)(5), the Commission has exempted portions of this system of records from 5 U.S.C. 552a(c)(3), (d), (e)(1), (e)(4)(G), (H), and (I), and (f). The exemption rule is contained in Section 9.95 of the NRC regulation (10 CFR 9.95).

System location: Office of Inspector and Auditor, NRC, 4922 Fairmont Avenue, Bethesda, Maryland.

Categories of individuals covered by the system: Individuals referred to in potential or actual cases and matters of concern to the Office of Inspector and Auditor and correspondents on subjects directed or referred to the Office of Inspector and Auditor.

Categories of records in the system: The system consists of an alphabetical index file bearing individual names. The index provides access to associated records which are arranged by subject matter, title, or identifying number(s) and/or letter(s). The system incorporates the records of all Office of Inspector and Auditor correspondence, cases, matters, memoranda, and materials, including but not limited to audit reports, investigative reports, inspection reports, correspondence to and from the Office of Inspector and Auditor, memoranda, legal papers, evidence, exhibits, audit data, investigative data, and work papers.

Authority for maintenance of the system:

a. Section 25(c), Atomic Energy Act of 1954, as amended, 42 U.S.C. 2035.

b. Section 201(f), Energy Reorganization Act of 1974, 42 U.S.C. 5841(f).

Routine uses of records maintained in the system, including categories of users and the purposes of such uses:

a. In the event that this system of records maintained by the Office of Inspector and Auditor to carry out its functions suggests or indicates a violation or potential violation of law, whether civil, criminal or regulatory in nature, and whether arising by general statute, or by regulation, rule or order issued pursuant thereto, the relevant records in the system may be referred to the appropriate Federal, state, local or foreign agency charged with responsibility for investigating or prosecuting such case or matter or charged with enforcing or implementing the statute, rule, regulation or order issued pursuant thereto.

b. In the course of auditing, inspecting, or investigating a case or matter falling within the purview of the Office of Inspector and Auditor or in the course of auditing, inspecting, or investigating a case or matter potentially or actually in violation of any law, whether civil, criminal, or regulatory in nature, whether arising by general statute, or by regulation, rule, order issued pursuant thereto, or during the course of a trial, hearing or any judicial, regulatory or administrative proceeding or the preparation for a trial, hearing or any judicial, regulatory or administrative proceeding for such violation, a record in the system of records may be disclosed as a routine use, to a Federal, state, local or foreign agency, or to an individual or organization, if there is any reason to believe that such agency, individual or organization possesses information relating to the case or matter falling within the purview of the Office of Inspector and Auditor, or possesses information relating to potential or actual violation of law whether arising by general statute or by regulation, rule or order issued pursuant thereto, or possesses information relating to the trial, hearing or any judicial, regulatory or administrative proceedings and the disclosure is reasonably necessary to elicit such information or to obtain the cooperation of a witness or an informant.

c. A record in the system of records relating to a case or matter may be disclosed as a routine use, to the appropriate Federal, state, local or foreign court or grand jury in accordance with established constitutional, substantive, or procedural law, or practice.

d. A record in the system of records relating to a case or matter may be disclosed as a routine use to a Federal, state, local or foreign administrative or regulatory proceeding or hearing in accordance with the procedures governing such proceedings or hearing.

e. A record in the system of records relating to a case or matter may be disclosed as a routine use to an actual or potential party or his attorney for the purpose of negotiation or discussion on matters such as but not limited to compromise or settlement of the case or matter.

f. A record in the system of records relating to a case or matter falling within the purview of the Office of Inspector and Auditor that has been referred for audit, inspection or investigation may be disclosed as a routine use to the referring agency, group, organization or individual to notify such agency, group, organization, or individual of the status of the case or matter or of any decision or determination that has been made.

g. A record in the system of records relating to an individual held in custody pending arraignment, trial, or sentence, or after conviction, may be disclosed as a routine use to a Federal, state, local or foreign prison, probation, parole or pardon authority, or to any other agency or individual concerned with the maintenance, transportation, or release of such an individual.

h. A record in the system of records relating to a case or matter may be disclosed as a routine use to a foreign country pursuant to an international treaty or convention entered into and ratified by the United States.

i. A record in the system of records may be disclosed as a routine use to a Federal, state, local or foreign law enforcement agency to assist in the general crime prevention and detection efforts of the recipient agency or to provide investigative leads to such agency.

j. A record may be disclosed from the system of records as a routine use to a Federal, state, local or foreign agency in connection with the investigation, hiring or retention of an employee, the issuance of a security clearance, the letting of a contract, or the issuance of a license, grant, or other benefit by the requesting agency to the extent that the information relates to the requesting agency's decision on the case or matter.

k. A record from the system of records may be disclosed as a routine use to a Federal, state, local or foreign agency if necessary to obtain information relevant to a Commission decision concerning the investigation, hiring, or retention of an employee, the issuance of a security clearance, the letting of a contract, or the issuance of a license, grant or other benefit.

l. A record in the system of records in the nature of an audit, inspection or investigation report relating to the integrity and efficiency of the Commission operation and management may be disseminated outside the Commission as part of the Commission's responsibility to inform the Congress and the public about Commission operations.

m. A record in the system of records may be disclosed for the routine use specified in paragraph number 5 of the Prefatory Statement.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage: Information contained in this system is stored manually on index cards and in file jackets.

Retrievability: Information is retrieved from index cards by the name of the individual and from the jackets by number(s) and/or letter(s) assigned and appearing on the index card.

Safeguards: Information is safeguarded and protected in accordance with applicable Office of Inspector and Auditor rules.

Retention and disposal: Information and associated records other than index cards contained in this system in part will be retained in NRC records and disposed of in accordance with NRC policy. Other records will be retained in the Office of Inspector and Auditor and disposal plans are to be established.

System manager(s) and address:

Director
Office of Inspector and Auditor
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Notification procedure:

Director, Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Record access procedures: Same as "Notification procedure." Information classified pursuant to Executive Order 11652 will not be disclosed. Information received in confidence will not be disclosed to the extent that disclosure would reveal a confidential source.

Contesting record procedures: Same as "Notification procedure."

Record source categories: The information in this system of records is obtained from sources including, but not limited to, U.S. Nuclear Regulatory Commission officers and employees, Federal, state, local, and foreign agencies, and persons.

NRC—19

System name: Official Personnel Training Records Files—NRC

System location: Primary system—Division of Organization and Personnel, NRC, 7915 Eastern Avenue, Silver Spring, Maryland.

Duplicate systems—duplicate systems exist, in whole or in part, at the locations listed in Addendum I, Part 1 (b), (e), (f), and (h) and Part 2.

Categories of individuals covered by the system: Individuals who have applied for or were selected for either NRC or other government/non-government training courses or programs.

Categories of records in the system: These records contain information relating to the NRC employee's educational background and training courses including training requests, authorizations for training, course grades or evaluations and other related personnel training information and correspondence.

Authority for maintenance of the system:

a. 5 U.S.C. 4103.

b. E.O. 11348, April 20, 1967.

Routine uses of records maintained in the system, including categories of users and the purposes of such uses:

a. Information may be extracted from and made available to the Civil Service Commission, other government agencies, state and local governments and educational institutions for use in training programs related to NRC employees.

b. A record in the system of records may be disclosed for the routine use specified in paragraph number 5 of the Prefatory Statement.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage: Paper records maintained in file folders and in three-ring binders which are in metal file cabinets.

Retrievability: Information is accessed by name.

Safeguards: Records are maintained in locked metal file cabinets. The area is accessible only to authorized personnel who are properly screened, cleared and trained and whose duties require them to be in the area.

Retention and disposal: Records are maintained for a five-year period or until no longer needed, and then destroyed.

System manager(s) and address:

Chief, Training Branch
Division of Organization and Personnel
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Notification procedure:

Director, Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Record access procedures: Same as "Notification procedure."

Contesting record procedures: Same as "Notification procedure."

Record source categories: Information in this system of records is obtained as follows: 1) from the individual to whom it applies; 2) from the employee's supervisor; and 3) from training groups, agencies or educational institutions.

NRC—20

System name: Official Travel Records—NRC

System location: Primary system—Office of the Controller, NRC, 4922 Fairmont Avenue, Lugenbeel Building, Bethesda, Maryland.

Duplicate systems—duplicate systems exist, in whole or in part, at the locations listed in Addendum I, Part 1 (b), (c), (e), and (f).

Categories of individuals covered by the system: NRC employees, prospective NRC employees, consultants, and invitational travelers for NRC programs.

Categories of records in the system: These records contain Request and Authorization for Official Travel forms, Travel Advance Worksheet, Travel Vouchers and Vouchers for Professional Services, Travel and Miscellaneous Expenses from consultants.

Authority for maintenance of the system:

a. 31 U.S.C. 21, 22, 24, 49, 54, 66a and 952.

b. 5 U.S.C. 5701.

c. Federal Travel Regulations, Federal Property Management Regulations, Part 101-7.

Routine uses of records maintained in the system, including categories of users and the purposes of such uses: Information in these records may be used:

a. For transmittal to the U.S. Treasury for payment;

b. For transmittal to the Department of State for passports; and

c. For any of the routine uses specified in the Prefatory Statement.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage: Records are maintained in file folders and on disks.

Retrievability: Records are accessed by name, social security account number, authorization number, estimated travel start day, authorization process day, and voucher process day.

Safeguards: File folders are stored in file cabinets in same room with users. For ADP records, a key word, initials, and NRC Office of the Controller's account number must be known in order to retrieve information.

Retention and disposal: File folders are retained three years and then destroyed. ADP information is retained on disks for one year, transferred to and retained on magnetic tape for five years, and then the tape is degaussed.

System manager(s) and address:

Controller
Office of the Controller
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Notification procedure:

Director, Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Record access procedures: Same as "Notification procedure."

Contesting record procedures: Same as "Notification procedure."

Record source categories: Information is provided by the individual, the organizational component approving the travel, outside transportation agents and rate books for cost information.

NRC—21

System name: Payroll Accounting Records—NRC

System location: Primary system—Office of the Controller, NRC, Lugenbeel Building, 4922 Fairmont Avenue, Bethesda, Maryland.

Duplicate systems—duplicate systems exist, in whole or in part, at the locations listed in Addendum I, Part 1 (b), (c), (e), (f), and Part 2.

Categories of individuals covered by the system: NRC employees.

Categories of records in the system: Pay, leave, and allowance histories.

Authority for maintenance of the system: 31 U.S.C. 21, 22, 24, 49, 54, 66a, and 952.

Routine uses of records maintained in the system, including categories of users and the purposes of such uses: Information in these records may be used:

a. For transmittal of data to U.S. Treasury to effect issuance of paychecks to employees and distribution of pay according to employee directions for savings bonds, allotments, financial institutions, and other authorized purposes;

b. For reporting tax withholding to Internal Revenue Service and appropriate state and local taxing authorities;

c. For FICA deductions to the Social Security Administration;

d. For dues deductions to labor unions;

e. For withholdings for health insurance to the insurance carriers and the U.S. Civil Service Commission;

f. For charity contribution deductions to agents of charitable institutions;

g. For annual W-2 statements to taxing authorities and the individual;

h. (When P.L. 93-579 becomes effective, it is anticipated that appropriate statements will be issued to employees, spouse-recipients, and the courts involved);

i. For transmittal to the Office of Management and Budget for review of budget requests;

j. For any of the routine uses specified in the Prefatory Statement;

k. For transmittal of data to the Energy Research and Development Administration for preparing computer material for NRC's transmittal of data to the U.S. Treasury;

l. For withholding of retirement and life insurance to the U.S. Civil Service Commission; and

m. For transmittal of information to state agencies for unemployment purposes.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage: File folders and micro-fiche.

Retrievability: Indexed by name.

Safeguards: File folders and micro-fiche are maintained in a locked file cabinet from 5:00 p.m. to 8:15 a.m. During office hours only authorized personnel have access to files.

Retention and disposal: Records are maintained for four years after transfer or separation of employee and then destroyed.

System manager(s) and address:

Controller, Office of the Controller
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Notification procedure:

Director, Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Record access procedures: Same as "Notification procedure."

Contesting record procedures: Same as "Notification procedure."

Record source categories: Information is provided by the individual and the Division of Organization and Personnel.

NRC—22

System name: Personnel Performance Appraisals—NRC

Pursuant to 5 U.S.C. 552a(k)(5) and (6), the Commission has exempted portions of this system of records from 5 U.S.C. 552a(c)(3), (d), (e)(1), (e)(4)(G), (H) and (I) and (f). The exemption rule is contained in Section 9.95 of the NRC regulation (10 CFR 9.95).

System location: Division of Organization and Personnel, Office of Administration, NRC, 7915 Eastern Avenue, Silver Spring, Maryland.

Categories of individuals covered by the system: NRC employees, including candidates who apply for job vacancies under the NRC vacancy announcement system.

Categories of records in the system: This system of records contains evaluations of applicants and employees, evaluation criteria and methods, employee placement follow-up interview reports, appraisals from other individuals who are knowledgeable of the applicant's abilities, supervisory appraisals of performance and career development potential, and other related records.

Authority for maintenance of the system: Section 161(d), Atomic Energy Act of 1954, as amended, 42 U.S.C. 2201(d).

Routine uses of records maintained in the system, including categories of users and the purposes of such uses: Information in these records may be used:

a. By the Civil Service Commission to resolve grievances or complaints related to promotion or appointment selections; and
b. For any of the routine uses specified in the Prefatory Statement.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage: Records are maintained in paper file folders.

Retrievability: Records are accessed by name.

Safeguards: Access to and use of these records are limited to those persons whose official duties require such access. Personnel screening is employed to prevent unauthorized disclosure.

Retention and disposal: Files are periodically screened to eliminate inactive records. Inactive records are destroyed.

System manager(s) and address:

Chief, Personnel Operations Branch
Division of Organization and Personnel
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Notification procedure:

Director, Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Record access procedures: Same as "Notification procedure." Some information was received in confidence and will not be disclosed to the extent that disclosure would reveal a confidential source. Testing material may not be disclosed to the extent that such disclosure would compromise the testing process.

Contesting record procedures: Same as "Notification procedure."

Record source categories: Individual to whom record pertains, employee's supervisors, Division of Organization and Personnel staff members, general personnel records (Official Personnel Folder and related records), and other Federal agencies.

NRC—23

System name: Personnel Research and Test Validation Records—NRC

Pursuant to 5 U.S.C. 552a(k)(6), the Commission has exempted portions of this system of records from 5 U.S.C. 552a(c)(3), (d), (e)(1), (e)(4)(G), (H) and (I) and (f). The exemption rule is contained in Section 9.95 of the NRC regulation (10 CFR 9.95).

System location: Division of Organization and Personnel, Office of Administration, NRC, 7915 Eastern Avenue, Silver Spring, Maryland.

Categories of individuals covered by the system: NRC employees and applicants for NRC employment.

Categories of records in the system: These records include education and employment history, test scores, responses to test items and questionnaires, interview data and ratings of supervisors regarding the individuals to whom the records pertain. Data are collected on a project basis and are used for the construction, analysis and validation of written tests; for research on personnel measurement and selection methods and techniques and research on personnel management practices such as performance evaluation or productivity.

Authority for maintenance of the system:

a. Section 161(d), Atomic Energy Act of 1954, as amended, 42 U.S.C. 2201(d).
b. 44 U.S.C. 3101.

Routine uses of records maintained in the system, including categories of users and the purposes of such uses: Information in this system of records may be:

a. Exchanged between the NRC, Civil Service Commission, and other Federal agencies for personnel research purposes and used to aid in identifying employees included in research studies that extend over a period of time; and
b. Used for the routine uses listed in the Prefatory Statement.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage: Records are maintained in file folders, on punched cards, computer tape, and computer storage.

Retrievability: Records are maintained by project. Personal information can be retrieved by name or personal identifier only for certain research projects such as those that involve longitudinal studies.

Safeguards: Records are kept in locked files and access is limited to staff.

Retention and disposal: Indefinite.

System manager(s) and address:

Chief, Management and Policy Branch
Division of Organization and Personnel
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Notification procedure:

Director, Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Record access procedures: Same as "Notification procedure." Some records contain information received in confidence and will not be disclosed to the extent that disclosure would reveal a confidential source. Testing material may not be disclosed to the extent such disclosure would compromise the testing process.

Contesting record procedures: Same as "Notification procedure."

Record source categories: Individual Federal employees or applicants, supervisors, assessment center assessors, Civil Service Commission, or NRC personnel files and records, and other Federal agencies.

NRC—26

System name: Principal Correspondence File—NRC

System location: Administrative Correspondence Branch, Office of the Executive Director for Operations, NRC, 7920 Norfolk Ave., Bethesda, Maryland.

Categories of individuals covered by the system: Correspondents with the Executive Director for Operations, Congressional correspondents and correspondents referred by the Secretariat.

Categories of records in the system: This system contains incoming correspondence from individuals noted above and replies thereto.

Authority for maintenance of the system: 44 U.S.C. 3101

Routine uses of records maintained in the system, including categories of users and the purposes of such uses: Information in these records may be used:

a. To refer, where appropriate, inquiries to Federal agencies or persons for their reply or action; and

b. For any of the routine uses specified in the Prefatory Statement.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage: Maintained in file folders stored in metal file cabinets.

Retrievability: Information accessed by control number or accessed by name.

Safeguards: Access is limited to those persons whose official duties require such access.

Retention and disposal: Records held indefinitely.

System manager(s) and address:

Chief, Administrative & Correspondence Branch
Office of the Executive Director for Operations
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Notification procedure:

Director, Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Record access procedures: Same as "Notification procedure."

Contesting record procedures: Same as "Notification procedure."

Record source categories: Records contain information and requests from correspondents and replies thereto prepared by the NRC staff.

NRC—27

System name: Radiation Exposure Information and Reports System (REIRS) Files—NRC

System location: Primary system—Union Carbide Corporation, Computing Technology Center, Business Systems Departments, P.O. Box P, Oak Ridge, Tennessee 37830.

Duplicate system—duplicate systems exist, in whole or in part, at the locations listed in Addendum I, Part 1(e) and Part 2.

Categories of individuals covered by the system: Individuals monitored for radiation exposure while employed by or visiting or temporarily assigned to certain NRC licensed facilities; individuals who are exposed to radiation or radioactive materials in incidents required to be reported pursuant to 10 CFR 20.403 and 20.405 by all NRC licensees; monitored individuals terminating their service with the Navy, as required by NAVMED P-5055, Radiation Health Protection Manual; and monitored employees of all the registrants of the State of Illinois.

Categories of records in the system: These records contain information relating to individual's name; social security account number; date of birth; period of employment; place and period date of exposure; name, address, and license number of individual's employer; licensee name and number reporting the incident; radiation doses or estimates of exposure received during this period; type of radiation; part(s) or organ(s) exposed; and nuclide(s) involved. Between January, 1972 and May, 1974 the following information was also recorded: sex, training experience, regular occupation of the exposed individuals; device or method used to determine dose(s); brief statement describing the incident and the causes; corrective actions taken; status of exposed individual (i.e., medical treatment); type, age and manufacturer of malfunctioning equipment; and cumulative dose prior to incident.

Authority for maintenance of the system: Sections 53, 63, 65, 81, 103, 104 and 161(o), Atomic Energy Act of 1954, as amended, 42 U.S.C. 2073, 2093, 2095, 2111, 2133, 2134, and 2201(o).

Routine uses of records maintained in the system, including categories of users and the purposes of such uses: Information in these records may be used:

a. To provide data to other Federal and state agencies involved in monitoring and/or evaluating radiation exposure received by individuals employed as radiation workers on a permanent or temporary basis and on monitored visitors; and

b. For any of the routine uses specified in the Prefatory Statement.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage: Records are computerized and maintained on magnetic tape, maintained in log books, and filed as either a computer printout or original paper document.

Retrievability: Records are accessed by individual name, social security account number, and by licensee name or number.

Safeguards: Information maintained at the Computing Technology Center is accessible only to the programmers assigned to the REIRS system and released only to the Division of Technical Review. Reports kept by the Division of Technical Review are in file cabinets and bookcases in a secured building. A log is maintained of both telephone and written requests for information.

Retention and disposal:

a. Original paper document—destroyed after two years.

b. Magnetic tape—permanently stored at Computing Technology Center.

c. Log books—kept indefinitely; no names.

d. Computer printouts—destroyed when updated.

System manager(s) and address:

Branch Chief
Performance Evaluation Branch
Office of Management Information and Program Control
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Notification procedure:

Director, Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Record access procedures: Same as "Notification procedure."

Contesting record procedures: Same as "Notification procedure."

Record source categories: Information in this system of records either comes from the monitored worker, visitors, worker's employer, or the person in charge of the facility to which the worker has been assigned.

NRC—28

System name: Recruiting, Examining and Placement Records—NRC

Pursuant to 5 U.S.C. 552a(k)(5), the Commission has exempted portions of this system of records from 5 U.S.C. 552a(c)(3), (d), (e)(1), (e)(4)(G), (H) and (I) and (f). The exemption rule is contained in Section 9.95 of the NRC regulation (10 CFR 9.95).

System location: Primary system—Division of Organization and Personnel, Office of Administration, NRC, 7915 Eastern Avenue, Silver Spring, Maryland.

Duplicate systems—duplicate systems exist, in whole or in part, at the locations listed in Addendum I, Part 1 (b), (c), (d), (e), (f), and (h) and Part 2.

Categories of individuals covered by the system: Persons who have applied for Federal employment with the U.S. Nuclear Regulatory Commission or are employed in the Federal Service.

Categories of records in the system: These records contain information relating to the education, training, employment history, earnings, past performance, criminal convictions, if any, written achievement test, potential, honors, awards, or fellowships, military service, veteran preference status, birthplace, birth date, social security account number, and home address of persons who have applied for Federal employment with the NRC or are employed in the Federal service.

Authority for maintenance of the system: Section 161(d), Atomic Energy Act of 1954, as amended, 42 U.S.C. 2201(d).

Routine uses of records maintained in the system, including categories of users and the purposes of such uses: Information in these records may be used:

a. To furnish information to agencies relative to transfer or consideration of employment; and

b. For any of the routine uses specified in the Prefatory Statement.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage: Records are maintained primarily on forms, lists and index cards in file folders. Also, certain data is maintained on magnetic tapes, disk and punch cards.

Retrievability: Records are indexed by name and an identification number assigned to each individual.

Safeguards: Access to and use of these records are limited to those persons whose official duties require such access. Personnel screening is employed to prevent unauthorized disclosure.

Retention and disposal:

a. Register of Eligible Applications—retained for one year or until no longer needed, then destroyed.

b. Index Cards—destroyed when no longer needed.

c. Other related recruitment and placement documents—destroyed when no longer needed.

System manager(s) and address:

Chief, Recruitment Branch
Division of Organization and Personnel
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Notification procedure:

Director, Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Record access procedures: Same as "Notification procedure." Some information was received in confidence and will not be disclosed to the extent that disclosure would reveal a confidential source.

Contesting record procedures: Same as "Notification procedure."

Record source categories: Information in this system of records either comes from the individual to whom it applies or is derived from information supplied by that individual, with the exception of reports from medical personnel on physical qualifications, results of examinations, vouchers filled out by references and educational institutions whose names were supplied by applicant, and information from other Federal agencies.

NRC—30

System name: Regulatory Management System (RMS) Records Files (manpower module only)—NRC.

System location: Energy Research and Development Administration, Computer Center CA—007, Germantown, Maryland.

Categories of individuals covered by the system: All NRC employees.

Categories of records in the system: These records contain information relating to number of regular and nonregular hours worked and the nature of the work.

Authority for maintenance of the system:

a. Section 161(p) of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2201(p)).

b. Executive Order 9397, November 22, 1943.

Routine uses of records maintained in the system, including categories of users and the purposes of such uses:

A record in the system of records may be disclosed for the routine use specified in paragraph number 5 of the Prefatory Statement.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage: Records are maintained in computer files, on tape and disks.

Retrievability: Records are accessed by social security account number, project or program numbers, and activity numbers.

Safeguards: Access to and use of these records are limited to those persons whose official duties require such access.

Retention and disposal: Computer tapes and disks are retained indefinitely but are subject to periodic review to determine relevancy.

System manager(s) and address:

Director,
Office of Management Information and Program Control
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Notification procedure:

Director, Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Record access procedures: Same as Notification Procedure.

Contesting record procedures: Same as Notification Procedure.

Record source categories: Information in this system of records comes from the individual to whom it pertains.

NRC—31

System name: Secretariat Records Facility Files—NRC

Pursuant to 5 U.S.C. 552a(k)(1), the Commission has exempted portions of this system of records from 5 U.S.C. 552a(c)(3), (d), (e)(1), (e)(4)(G), (H) and (I) and (f). The exemption rule is contained in Section 9.95 of the NRC regulation (10 CFR 9.95).

System location: Office of the Secretary, NRC, 1717 H Street, N.W., Washington, D.C. 20555.

Categories of individuals covered by the system: Agencies, organizations and individuals who have corresponded with the NRC through the Office of the Secretary.

Categories of records in the system: These records contain correspondence from agencies, organizations, and individuals, the related replies for the official Commission records and correspondence control documents.

Authority for maintenance of the system:

a. Section 201, Energy Reorganization Act of 1974, 42 U.S.C. 5841;

b. 44 U.S.C. 3101.

Routine uses of records maintained in the system, including categories of users and the purposes of such uses: The records may be used for any of the routine uses specified in the Prefatory Statement.

A record in the system of records may be disclosed for the routine use specified in paragraph number 5 of the Prefactory Statement.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage: Records are maintained in file folders.

Retrievability: Records are accessed by subject matter headings. Access to the subject matter headings may be provided through the correspondence control documents.

Safeguards: Access to these records is limited to the staffs of the Commissioners and the Secretary, and to those specifically granted access by the Office of the Secretary. Classified materials are kept in approved safes, and unclassified records are secured in locked file cabinets. Access is granted only through a records clerk. The folders are signed out to individuals when released, and controlled.

Retention and disposal: Stored indefinitely.

System manager(s) and address:

Supervisor, Records Facility
Office of the Secretary
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Notification procedure:

Director, Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Record access procedures: Same as "Notification procedure." Some information is classified pursuant to Executive Order 11652 and will not be disclosed.

Contesting record procedures: Same as "Notification procedure."

Record source categories: Information in this system of records comes from communications to the Commission and responses thereto.

NRC—32

System name: Source and Special Nuclear Material Administrative Management Records—NRC

System location: Primary system—Division of Fuel Cycle and Material Safety, Office of Nuclear Material Safety and Safeguards, NRC, 7735 Old Georgetown Road, Bethesda, Maryland.

Duplicate systems—duplicate systems exist, in whole or in part, at the locations listed in Addendum I, Part 2.

Categories of individuals covered by the system: Applicants for and licensees under Source and Special Nuclear Materials licensing programs.

Categories of records in the system: Information contained in this system reflects data supplied by applicants and licensees and developed by the NRC staff in the license review and authorization process with respect to the possession and use of source and special nuclear material. System component records developed and maintained by the NRC staff also include summary and cross-indexing type data promoting quick access to and breakout of such license information as:

a. Alphabetical listings of active and inactive licenses and applicants for licenses arranged by state and by a master listing;
b. Cross indexes of names to assigned license numbers;
c. Dates of license issuance and expiration; and
d. Geographic location of licensees by state and town.

Authority for maintenance of the system:

a. Sections 53, 63, 65, 161(b), (i) and (o), Atomic Energy Act of 1954, as amended, 42 U.S.C. 2073, 2093, 2095, 2201(b), (i) and (o).

Routine uses of records maintained in the system, including categories of users and the purposes of such uses: Information in these records may be used:

a. To provide records to state health departments for their information and use;

b. To provide information to other Federal, state and local health officials in the event of incident or exposure, for purposes of their information, investigation and protection of public health and safety;

c. To provide ERDA with information concerning special nuclear material licenses for purposes of control related transfers and safeguards accountability; and

d. For any of the routine uses specified in the Prefatory Statement.

In addition, certain of the information provided in this category is routinely placed in the NRC's Public Document Room.

A record in the system of records may be disclosed for the routine use specified in paragraph number 5, of the Prefatory Statement.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage: Records are maintained in correspondence and NRC forms and in such physical media as card systems, logs, punch tape, and microfilm.

Retrievability: Indexed by applicant and licensee name in juxtaposition with assigned license number.

Safeguards: Records maintained in standard filing equipment under control of supervisory personnel within a security patrolled building. Access to and use of records is limited to technical and administrative personnel of the division processing security clearances.

Retention and disposal: Records are continuously changed or amended as new information is developed or individual licenses are cancelled or terminated; license files are transferred to Federal Records Center in Suitland, Maryland, when they become inactive or are terminated. Obsolete data except for record copy maintained at Federal Records Centers, is destroyed by waste paper incineration.

System manager(s) and address:

Director
Division of Fuel Cycle and Material Safety
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Notification procedure:

Director, Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Record access procedures: Same as "Notification procedure."

Contesting record procedures: Sale as "Notification procedures."

Record source categories: Forms and information submitted by applicants and licensees; information developed by NRC personnel from such forms and information.

NRC—34

System name: Advisory Committee on Reactor Safeguards (ACRS) Correspondence Index and Associated Records—NRC

System location: Advisory Committee on Reactor Safeguards, NRC, 1717 H Street, N.W., Washington, D.C.

Categories of individuals covered by the system: Persons providing information to or requesting information from the ACRS.

Categories of records in the system: These records contain information relating to incoming requests and correspondence from individuals and replies thereto and a listing by authors names of technical information.

Authority for maintenance of the system: 44 U.S.C. 3101.

Routine uses of records maintained in the system, including categories of users and the purposes of such uses: For any of the routine uses specified in the Prefatory Statement.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage: Indexing is maintained on computer tapes and disks and individual materials are located in ACRS files.

Retrievability: Indexed by one or more of the following categories: author and addressee's name, subject title using the Key Word Out of Context (KWOC) index and issuing organization or agency.

Safeguards: Access is limited to those persons whose official duties require such access.

Retention and disposal: Records held indefinitely or until no longer needed.

System manager(s) and address:

Technical Information Officer
Advisory Committee on Reactor Safeguards
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Notification procedure:

Director, Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Record access procedures: Same as "Notification procedure."

Contesting record procedures: Same as "Notification procedure."

Record source categories: Records contain information prepared by private individuals or organizations, government agencies and their contractors, companies, and other groups such as the American National Standards Institute (ANSI).

NRC—35

System name: Division of Technical Review Employee Work Schedule File—NRC

System location: National Institutes of Health Computer Facility, c/o Office of Management Information and Program Control, NRC, 7735 Old Georgetown Road, Bethesda, Maryland.

Categories of individuals covered by the system: Division of Technical Review (DTR) professional employees assigned review tasks.

Categories of records in the system: These records contain DTR employees' work schedules and summary description of work completed.

Authority for maintenance of the system: Section 161p, Atomic Energy Act of 1954, as amended, 42 U.S.C. 2201(p).

Routine uses of records maintained in the system, including categories of users and the purposes of such uses: None.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage: Records are maintained on computer magnetic tapes and in file folders.

Retrievability: Records are accessed by DTR employee's name.

Safeguards: Access to and use of these records are limited to those persons whose official duties require such access.

Retention and disposal: Retained indefinitely for development of budget program planning and statistical purposes.

System manager(s) and address:

Director, Division of Technical Review
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Notification procedure:

Director, Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Record access procedures: Same as "Notification procedure."

Contesting record procedures: Same as "Notification procedure."

Record source categories: DTR employees to whom records pertain and their supervisors.

NRC—36

System name: Employee Locator Records Files—NRC

System location: Primary system—Division of Facilities and Operations Support, Office of Administration, NRC, 7920 Norfolk Avenue, Bethesda, Maryland.

Duplicate systems—duplicate systems exist, in whole or in part, at the locations listed in Addendum I, Parts 1 and 2.

Categories of individuals covered by the system: Persons who are NRC employees, consultants, contractors and other government personnel.

Categories of records in the system: These records contain information relating to name, address (home and business), telephone numbers (home and business), organization, persons to be notified in case of emergency and other related records.

Authority for maintenance of the system: 44 U.S.C. 3101.

Routine uses of records maintained in the system, including categories of users and the purposes of such uses: None.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage: Maintained on index cards and in file folders.

Retrievability: Indexed by name.

Safeguards: Access to and use of these records are limited to those persons whose official duties require such access.

Retention and disposal: Stored indefinitely or until association with NRC is discontinued.

System manager(s) and address:

Director, Division of Facilities and Operations Support
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Notification procedure:

Director, Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Record access procedures: Same as "Notification procedure."

Contesting record procedures: Same as "Notification procedure."

Record source categories: Individual on whom the record is maintained, general personnel records, and other related records.

NRC—37

System name: Information Security Files and Associated Records—NRC

Pursuant to 5 U.S.C. 552a(k)(1) and (5), the Commission has exempted portions of this system of records from 5 U.S.C. 552a(c)(3), (d), (e)(1), (e)(4)(G), (H) and (I) and (f). The exemption rule is contained in Section 9.95 of NRC regulations in 10 CFR Part 9.

System location: Primary system—Division of Security, Office of Administration, NRC, 7915 Eastern Avenue, Silver Spring, Maryland.

Duplicate system—duplicate systems exist, in whole or in part, at the locations listed in Addendum I, Parts 1 and 2.

Categories of individuals covered by the system: Persons including present or former NRC employees, NRC contractors, NRC consultants, licensees, other government agency personnel, and other cleared persons.

Categories of records in the system: These records include information regarding:

a. personnel who are authorized access to specified levels, categories and types of information, the approving authority, and related documents.

b. individuals who originate classified documents as well as identifying information about the document.

Authority for maintenance of the system:

a. Sections 145 and 161i., Atomic Energy Act of 1954, as amended, 42 U.S.C. 2165 and 2201(i).

b. E.O. 11652, March 8, 1972.

Routine uses of records maintained in the system, including categories of users and the purposes of such uses: Information in this system may be used:

a. To provide information relating to the control of classified information and material to the Interagency Classification Review Committee, Department of Defense, Energy Research and Development Administration and other government agencies; and

b. For any of the routine uses specified in the Prefatory Statement.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage: Maintained primarily in file folders, magnetic tape, and disk packs.

Retrievability: Indexed and accessible by name, or by some other representation or a combination thereof.

Safeguards: Maintained in locked buildings, containers, or security areas under guard and/or alarm protection, as appropriate.

Retention and disposal: Records are handled in accordance with NRC Manual directives, including NRC Manual Appendix 0230, 'Record Disposition.'

System manager(s) and address:

Director, Division of Security
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Notification procedure:

Director, Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Record access procedures: Same as "Notification procedure." Some information is classified pursuant to Executive Order 11652 and will not be disclosed. Other information has been received in confidence and will not be disclosed to the extent that disclosure would reveal a confidential source.

Contesting record procedures: Same as "Notification procedure."

Record source categories: Persons including NRC employees, NRC contractors, NRC consultants, NRC licensees, and NRC visitors as well as information furnished by other government agencies or their contractors.

NRC—38

System name: Mailing Lists—NRC

System location: Primary location—Division of Document Control, Office of Administration, NRC, 7920 Norfolk Avenue, Bethesda, Maryland.

Duplicate systems—duplicate systems exist, in whole or in part, at the locations listed in Addendum I, Part 1 (f) and (h).

Categories of individuals covered by the system: Individuals with an interest in receiving information from the NRC.

Categories of records in the system: Mailing lists include primarily the individual's name and address. Some lists also include telephone number, title, occupation, institutional affiliation and in the case of the associates, type of membership.

Authority for maintenance of the system: 44 U.S.C. 3101.

Routine uses of records maintained in the system, including categories of users and the purposes of such uses: None.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage: Paper records are maintained in card files, index cards, address plates, magnetic cards, punch cards, cassettes and magnetic tape.

Retrievability: Filed alphabetically at each location by name of individual.

Safeguards: Access to use of these records are limited to those persons whose official duties require such access.

Retention and disposal: Stored until requestor no longer desires the information.

System manager(s) and address:

Director, Division of Document Control
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Notification procedure:

Director, Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Record access procedures: Same as "Notification procedure."

Contesting record procedures: Same as "Notification procedure."

Record source categories: Individuals expressing an interest in NRC activities and employees.

NRC—39

System name: Personnel Security Files and Associated Records—NRC

Pursuant to 5 U.S.C. 552a(k)(1) and (5), the Commission has exempted portions of this system of records from 5 U.S.C. 552a(c)(3), (d), (e)(1), (e)(4)(G), (H), and (I) and (f). The exemption rule is contained in Section 9.95 of the NRC regulations in 10 CFR Part 9.

System location: Primary system—Division of Security, Office of Administration, NRC, 7915 Eastern Avenue, Silver Spring, Maryland.

Duplicate systems—duplicate systems exist, in whole or in part, at the locations listed in Addendum I, Part 1(j) and (k) and Part 2.

Categories of individuals covered by the system: Persons including NRC employees and employment applicants, NRC consultants, NRC contractors, licensees, other government agency personnel (e.g., General Services Administration personnel), other persons who have been considered for a personnel clearance, aliens who visit at NRC's facilities and actual or suspected violators of laws administered by NRC.

Categories of records in the system: These records include information relating to personnel, including name, address, date and place of birth, social security account number, citizenship, residence history, employment history, foreign travel, education, personal references, organizational membership and security clearance history. These records also contain copies of investigative reports from other agencies (primarily from the Civil Service Commission or the Federal Bureau of Investigation), summaries of investigative reports, results of Federal agency indices checks, reports of personnel security interviews, clearance actions information (e.g., grants and terminations), violations of laws, reports of security infractions, 'Request for Visit or Access Approval' (Form NRC-277), and other related personnel security processing documents.

Authority for maintenance of the system:

a. Sections 145 and 161(i), Atomic Energy Act of 1954, as amended, 42 U.S.C. 2165 and 2201(i).

b. E.O. 11652, March 8, 1972.

c. E.O. 10450, April 27, 1953.

d. E.O. 10865, February 20, 1960.

Routine uses of records maintained in the system, including categories of users and the purposes of such uses: Information in these records may be used by the Division of Security, Personnel Security Board Members or Personnel Security Review Board Members, Civil Service Commission, Federal Bureau of Investigation, and other Federal agencies:

a. To determine clearance eligibility;

b. To certify clearances;

c. To maintain the NRC personnel security program; and

d. For any of the routine uses specified in the Prefatory Statement.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage: Maintained primarily in file folders, magnetic tape, and disk packs.

Retrievability: Indexed and accessible by name, social security account number, or case file number of a combination thereof.

Safeguards: File folders and computer print-outs are maintained in locked buildings, containers, or security areas under guard and/or alarm protection as appropriate. Computer area access limited to cleared personnel with a need to know.

Retention and disposal: Records are handled in accordance with NRC Manual directives, including NRC Manual Appendix 0230, 'Records Disposition.'

System manager(s) and address:

Director, Division of Security
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Notification procedure:

Director, Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Record access procedures: Same as "Notification procedure." Some information is classified pursuant to Executive Order 11652 and will not be disclosed. Other information has been received in confidence and will not be disclosed to the extent that disclosure would reveal a confidential source.

Contesting record procedures: Same as "Notification procedure."

Record source categories: Persons including NRC employees, NRC contractors, NRC consultants, NRC licensees, and NRC visitors as well as information furnished by other government agencies or their contractors.

NRC—40

System name: Protection Support Files and Associated Records—NRC

Pursuant to 5 U.S.C. 552a(k)(1) and (5), the Commission proposes to exempt portions of this system of records from 5 U.S.C. 552a(c)(3), (d), (e)(1), (e)(4)(G), (H) and (I) and (f). The exemption rule is contained in proposed Section 9.95 of the NRC regulations in 10 CFR Part 9.

System location: Primary system—Division of Security, Office of Administration, NRC, 7915 Eastern Avenue, Silver Spring, Maryland.

Duplicate systems—duplicate systems exist in whole or in part, at the locations listed in Addendum I, Parts 1 and 2.

Categories of individuals covered by the system: Persons including present or former NRC employees, NRC consultants, NRC contractors, licensees, other government agency personnel and actual or suspected violators of laws relating to the NRC's activities.

Categories of records in the system: These records include information regarding: NRC facilities and NRC contractor facilities security programs and associated records; individuals visiting NRC facilities; NRC employees and NRC related identification files maintained for access purposes; actual or suspected violations of laws administered by NRC; including copies of investigative reports from other government agencies; records of individual's firearms qualification scores including the accountability of firearms; and other documents relating to the safeguarding of National Security Information.

Authority for maintenance of the system:

a. Sections 145 and 161 i., k., and p., Atomic Energy Act of 1954, as amended, 42 U.S.C. 2165 and 2201(i), (k) and (p).

b. E.O. 11652, March 8, 1972.

Routine uses of records maintained in the system, including categories of users and the purposes of such uses: Information in this system may be used:

a. To provide licensees and contractors with the information necessary to maintain an adequate security program; and

b. For any of the routine uses specified in the Prefatory Statement. HI HJMaintained in file folders and on related forms.

Policies and practices for storing, retrieving, accessing, retaining, and disposing of records in the system:

Storage: Maintained in file folders and on related forms.

Retrievability: Indexed and accessible by name, facility, badge number, identification card number, chronologically, or a combination thereof.

Safeguards: Maintained in locked buildings, containers, or security areas under guard and/or alarm protection, as appropriate.

Retention and disposal: Records are handled in accordance with NRC Manual directives, including Appendix 0230, 'Record Disposition.'

System manager(s) and address:

Director, Division of Security
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Notification procedure:

Director, Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Record access procedures: Same as "Notification procedure." Some information is classified pursuant to Executive Order 11652 and will not be disclosed. Other information has been received in confidence and will not be disclosed to the extent that disclosure would reveal a confidential source.

Contesting record procedures: Same as "Notification procedure."

Record source categories: Persons including NRC employees, NRC Contractors, NRC consultants, NRC licensees, and NRC visitors as well as information furnished by other government agencies or their contractors.

ADDENDUM I

LIST OF U.S. NUCLEAR REGULATORY COMMISSION LOCATIONS

PART 1

NRC headquarters offices

a. Willste Building, 7915 Eastern Avenue, Silver Spring, Maryland.

b. East West Towers Building, 4350 East West Highway, Bethesda, Maryland

c. Landow Building, 4915 St. Elmo Avenue, Bethesda, Maryland

d. Lugenbeel Building, 4922 Fairmont Avenue, Bethesda, Maryland

e. Maryland National Bank Building, 7735 Old Georgetown Road, Bethesda, Maryland

f. Phillips Building, 7920 Norfolk Avenue, Bethesda, Maryland

g. Woodmont Building, 8120 Woodmont Avenue, Bethesda, Maryland

h. Nicholson Lane Building, 5650 Nicholson Lane, Rockville, Maryland

i. Matomic Building, 1717—H Street, N.W., Washington, D.C.

j. Energy Research and Development Administration Building, Germantown, Maryland.

k. Century XXI, Energy Research and Development Administration, Germantown, Maryland.

PART 2

NRC regional offices

a. NRC Region I, 631 Park Avenue, King of Prussia, Pennsylvania 19406

b. NRC Region II, 230 Peachtree Street, N.W., Suite 818, Atlanta, Georgia 30303

c. NRC Region III, 799 Roosevelt Road, Glen Ellyn, Illinois 60137

d. NRC Region IV, 611 Ryan Plaza Drive, Suite 1000, Arlington, Texas 76012

e. NRC Region V, 1990 N. California Boulevard, Suite 202, Walnut Creek, California 94596

[FR Doc.76-25541 Filed 8-30-76;8:45 am]

federal register

MONDAY, SEPTEMBER 27, 1976

THE NATIONAL ARCHIVES OF THE UNITED STATES
1934

PART III:

OFFICE OF MANAGEMENT AND BUDGET

■

VARIOUS AGENCIES

Proposed Budget Rescissions And Revised Deferral

OFFICE OF MANAGEMENT AND BUDGET

PROPOSED BUDGET RESCISSIONS AND REVISED DEFERRAL

TO THE CONGRESS OF THE UNITED STATES:

In accordance with the Impoundment Control Act of 1974, I herewith propose three rescissions of 1977 budget authority totalling $134.1 million. The rescission proposals affect programs of the Corps of Engineers and the Departments of the Interior and Transportation.

In addition, I am reporting an increase of $133,000 to a 1976 and transition quarter deferral involving the wildlife conservation, etc., military reservations programs.

The details of the proposed rescissions and the revised deferral are contained in the attached reports.

Gerald R. Ford

THE WHITE HOUSE, September 22, 1976.

CONTENTS OF SPECIAL MESSAGE
(in thousands of dollars)

Fiscal 1977 Rescissions

Rescission #	Item	Budget Authority
	Corps of Engineers-Civil	
R77-2	Revolving fund..........................	6,600
	Interior	
	Bureau of Mines	
R77-3	Helium fund..........................	47,500
	Transportation	
	Federal Highway Administration	
R77-4	Highway crossing federal projects.....	35,000
		89,100

1976 and Transition Quarter Deferral

Deferral #	Item	Budget Authority
	Defense-Civil	
	Miscellaneous Accounts	
D76-6B	Wildlife conservation, etc., military reservations................	348

SUMMARY OF SPECIAL MESSAGES
FOR FY 1977
(amounts in thousands of dollars)

	Rescissions
First special message....................	45,000
Second special message...................	89,100
Total amount proposed in special messages..............................	134,100 (in 4 rescission proposals)

* * *

SUMMARY OF SPECIAL MESSAGES
FOR FY 1976 AND THE TRANSITION QUARTER
(amounts in thousands of dollars)

	Rescissions	Deferrals
This special message:		
New items..............................	---	---
Changes to amounts previously submitted..............................	---	133
Effect of this special message.........	---	133
Previous special messages...............	3,582,064	8,346,408
Adjustments to eliminate double counting..............................	---	-242,023
Total amount proposed in special messages..............................	3,582,064 (in 50 rescission proposals)	8,104,518 (in 117 deferrals)

NOTE: All amounts listed represent budget authority except for $114,828,220 consisting of two general revenue sharing deferrals (of outlays only). Supplementary reports for these deferrals (D76-25F and D76-67A) are included in the seventeenth 1976 and transition quarter special message.

Rescission Proposal No: R77-2

PROPOSED RESCISSION OF BUDGET AUTHORITY

Report Pursuant to Section 1012 of P.L. 93-344

Agency Department of the Army Bureau Corps of Engineers, Civil Appropriation title & symbol Revolving Fund, COE Civil 96X4902	New budget authority (P.L. 94-355) $6,600,000 Other budgetary resources (unobligated balance) 6,100,000 Total budgetary resources 12,700,000 Amount proposed for rescission $6,600,000
OMB identification code: 1/ 96-4902-5-4-301 Grant program ☐ Yes ☒ No	Legal authority (in addition to sec. 1012): ☐ Antideficiency Act ☐ Other
Type of account or fund: ☐ Annual ☐ Multiple-year (expiration date) ☒ No-year	Type of budget authority: ☒ Appropriation ☐ Contract authority ☐ Other

Justification

Funds in the amount of $6,600,000 were provided in the Public Works for Water and Power Development and Energy Research Appropriation Act, 1977, for the construction of two hopper dredges and the continuation of planning on a third hopper dredge. Hopper dredges are ocean-going vessels used to increase the depth of channels in unprotected waters. Until recently, the only active hopper dredges in the U.S. were owned and operated by the U.S. Army Corps of Engineers.

For several years it has been the Administration's policy to encourage the private sector to design, construct and operate hopper dredges, and as a part of this effort there have been no new Federal hopper dredges constructed in recent years. As a result of this policy, the private dredging industry now has one hopper dredge currently working under contract for the Corps, one under construction, one ready for construction, and one being designed. To begin construction of additional Federal hopper dredges now may drive private industry back out of the hopper dredge business.

Estimated Effects

The Administration believes that the private sector will provide the necessary capacity and should be given the opportunity to assume the dredging workload anticipated for these three ships and others that may be needed. If the dredging industry fails to expand their hopper dredge fleet, then new appropriations would have to be provided at a later date to expand the Federal fleet.

1/ The OMB identification code that appeared in the FY 1977 budget was 08-10-4902-0-4-301.

R77-2

Outlay Effect(estimated in of millions of dollars)

Comparison with President's 1977 budget:

1. Budget outlay estimate for 1977	--
2. Outlay savings, if any, included in the budget outlay estimate	--

Current Outlay Estimates for 1977:

3. Without rescission	3.0
4. With rescission	--
5. Current outlay savings (line 3 - line 4)	3.0
Outlay Savings for 1978	28.5 1/

1/This amount is an estimate of the second year costs associated with construction of two hopper dredges.

R77-2

Title II DEPARTMENT OF DEFENSE-CIVIL

Department of the Army

Corps of Engineers-Civil
Revolving Fund

Funds appropriated under this head in the Public Works for Water and Power Development and Energy Research Appropriation Act, 1977, in the amount of $6,600,000, are rescinded.

Rescission Proposal No: R77-3

PROPOSED RESCISSION OF BUDGET AUTHORITY

Report Pursuant to Section 1012 of P.L. 93-344

Agency Interior	New budget authority (P.L. 87-122) $47,500,000
Bureau Bureau of Mines	Other budgetary resources 17,467,000
Appropriation title & symbol Helium Fund 14X4053	Total budgetary resources 64,967,000
	Amount proposed for rescission $47,500,000
OMB identification code: 1/ 14-4053-5-3-306	Legal authority (in addition to sec. 1012): ☐ Antideficiency Act
Grant program ☐ Yes ☒ No	☐ Other
Type of account or fund: ☐ Annual ☐ Multiple-year ____ (expiration date) ☒ No-year	Type of budget authority: ☐ Appropriation ☒ Contract authority ☐ Other

Justification

- Summary

Contract authority of $47,500,000 was provided annually for purchase of helium by PL 87-122. Government purchases of helium have been terminated, however, and no resumption of purchasing is anticipated at this time. Rescission of the FY 1977 contract authority is proposed since previous contracts have been terminated and new contracts cannot be justified.

- Reasons for Contracts

Since its discovery in 1895 until the early 1960's, helium was produced and sold only by the Federal Government. Demand for helium for traditional uses, such as welding and leak detection, grew over the years but was greatly expanded in the late 1950's with NASA and Defense efforts which used helium in rocket programs. Projection of such demand led to the belief that helium concentrated in producing natural gas wells should be extracted and stored for future Government needs. This led to amendments of the Helium Act (50 USC 167) which authorized the Department of the Interior to enter into helium purchase contracts with natural gas producers and to store the acquired helium for future use.

1/ The OMB identification code that appeared in the FY 1977 Budget was 10-32-4053-0-3-306.

- General Program Provisions

The program was to be self-liquidating by (1) fixing the price to recover all costs over the life of the contracts and (2) requiring all Government agencies to purchase helium from the Government at that price. A general decline in the market price for helium frustrated the Government's efforts to liquidate the program. The four contracts written under the program in 1961 permitted termination by the Government in the event that new sources of helium were discovered or demand was substantially diminished.

- Program Problems

By 1971 significant changes in helium demand had occurred. NASA and DOD efforts had either been cut back or new methods not requiring helium had been adopted. By decision of Acting Interior Secretary Russell, the contracts were terminated because of changes in helium demand forecasts. The four contract helium producers sued the Government, one for breach of contract, the others on grounds that the Government's decision had not been in compliance with the National Environmental Policy Act (NEPA). Results of these suits led to a second termination action as to three of the contractors by Secretary Morton in February, 1973.

The contracts are no longer in force, but court action continues. Suits by the contractors, claiming damages for breach of contract, are pending in the U.S. Court of Claims. The Government's liability, if any, in these cases will not be finally determined before the end of the fiscal year.

- Present Efforts in the Helium Program

The Government still has a helium program, which is funded from the Helium Fund. Elements of this program, conducted by the Bureau of Mines, are:

- producing, selling and distributing supplies of helium to Federal agencies and commercial firms
- searching for new sources of helium-bearing natural gas and assessing the helium resources and reserves of the United States
- preparing long-range helium supply/demand estimates
- conducting research to improve methods of helium production, purification, transportation, liquefaction, storage, and utilization
- maintaining and conserving helium in the Cliffside gasfield near Amarillo, Texas
- accepting, storing, and redelivering privately-produced helium on a cost-reimbursable basis.

Nearly 60 billion cubic feet (bcf) of helium are in storage and in proved non-depleting reserves. Current annual domestic use is about 1/2 bcf. The Department of the Interior is developing a management and pricing policy for the stored helium.

New contracts by which the Government would purchase and store helium at public expense are not justifiable in view of past experience and the estimated future availability of and demand for helium. The April 11, 1975, ERDA study* on helium discusses in detail historical events and possible courses of public policy toward helium. The report recommends that the Government authorize storage of privately-owned helium in Government facilities, but does not recommend reinstitution of Government purchase contracts.

During FY 1976 the Bureau of Mines entered into seven contracts for the storage of privately-owned helium for a fee in the Government's Cliffside Field near Amarillo, Texas. The Bureau now has eight of these storage contracts and currently (Aug. 1976) private helium is being delivered to storage at a rate of about 600 million cubic feet a year.

Without helium purchase contracts, the contract authority cannot be expended. Under these conditions, rescission of the FY 1977 contract authority is proposed.

Estimated Effects

No effect is projected. The authority would remain unused even if not rescinded because no contracts exist for expenditures.

Outlay Effect (estimated millions of dollars)

Comparison with President's 1977 Budget:	
1. Budget outlay estimate for FY 1977	.3
2. Outlay savings, if any, included in the budget outlay estimate	0
Current Outlay Estimates for FY 1977:	
3. Without rescission	.3
4. With rescission	.3
5. Current outlay savings (line 3 - line 4)	0

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* "The Energy Related Applications of Helium"

R77-3

DEPARTMENT OF INTERIOR

BUREAU OF MINES

Development and Operation of Helium Properties

Contract authority provided under this head in Public Law 87-122 for the fiscal year 1977 is rescinded in the amount of $47,500,000.

Rescission Proposal No: R77-4

PROPOSED RESCISSION OF BUDGET AUTHORITY

Report Pursuant to Section 1012 of P.L. 93-344

Agency Department of Transportation	New budget authority (P.L. 94-387) $35,000,000
Bureau Federal Highway Administration	Other budgetary resources 0
Appropriation title & symbol Highways Crossing Federal Projects 697/90510	Total budgetary resources $35,000,000
	Amount proposed for rescission $35,000,000
OMB identification code: 69-0510-5-1-404	Legal authority (in addition to sec. 1012): ☐ Antideficiency Act
Grant program ☒ Yes ☐ No	☐ Other ______
Type of account or fund: ☐ Annual ☒ Multiple-year September 30, 1979 (expiration date) ☐ No-year	Type of budget authority: ☒ Appropriation ☐ Contract authority ☐ Other ______

Justification

This first-time appropriation would supply 100% Federal funding for a newly-authorized (Federal-Aid Highway Act of 1976) narrow categorical grant program. Funds are to be used for "...construction or reconstruction of public highways or highway bridges crossing any Federal public works project where there has been a substantial change in the requirements and cost of such highway or bridge since initiation of the public works project and when such increased costs would cause undue hardship upon local interests." (p. 23, Senate Report 94-1017).

The effect of implementing this new program would be to:

1. Remove these narrow-purpose projects from competition with other possible State projects. The effect of this removal will be to use 100% Federal funding for a number of projects that States would consider too low in priority to fund through the regular Federal-State matching highway programs. The higher-priority projects this new program would fund could--and probably would--be funded under currently-existing programs.

2. Initiate one more duplicating Federal program. The projects that could be funded under the new program are already eligible for funding under the Federal-Aid Highway and Off-System Roads programs.

3. Permit construction of highway projects completely at federal expense rather than under some form of State matching requirements.

R77-4

Estimated Effects

The rescission of this appropriation will avoid embarking upon another costly program to finance projects that can be, if they are of sufficient priority to the States, constructed within present funding in the regular Federal-Aid Highway program.

Outlay Effect (estimated in millions of dollars)

Comparison with President's 1977 Budget:

1.	Budget outlay estimate for 1977	$-0-
2.	Outlay savings, if any, included in the budget outlay estimate....................................	-0-

Current Outlay Estimates for 1977:

3.	Without rescission..................................	5.6
4.	With rescission.....................................	-0-
5.	Current outlay savings (line 3-Line 4).............	5.6

Outlay Savings for 1978.................................... 18.9

R77-4

DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

Highways Crossing Federal Projects

Funds appropriated under this head in the Department of Transportation and Related Agencies Appropriation Act, 1977, to remain available until September 30, 1979, in the amount of $35,000,000 are rescinded.

D76-6B

SUPPLEMENTARY REPORT

Report Pursuant to Section 1014 (c) of P.L. 93-344

This report updates supplementary Deferral No. D76-6A transmitted to the Congress on July 6, 1976, and printed as House Document No. 94-548 and Senate Document No. 94-232.

This report reflects a net increase in budgetary resources, amounts apportioned, and amounts deferred. The budgetary resources have increased by $163,584, primarily because the actual unobligated balances for June 30, 1976, are greater than previously estimated. The amounts apportioned are increased by $30,984 and the amounts deferred are increased by $132,600.

Deferral No: D76-6B

DEFERRAL OF BUDGET AUTHORITY

Report Pursuant to Section 1013 of P.L. 93-344

Agency: Department of Defense

Bureau:

Appropriation title & symbol

See Coverage section below

New budget authority (16 U.S.C. 670f (a)) $ 119,921*

Other budgetary resources 479,663*

Total budgetary resources (Transition Quarter) 599,584*

Amount to be deferred:

Part of transition quarter $ ______

Entire transition quarter 347,600

OMB identification code: 1/ 97-5095-5-2-303

Grant program ☐ Yes ☒ No

Legal authority *(in addition to sec. 1013)*:

☒ Antideficiency Act

☐ Other ______

Type of account or fund:

☐ Annual

☐ Multiple-year ______ *(expiration date)*

☒ No-year

Type of budget authority:

☒ Appropriation

☐ Contract authority

☐ Other ______

Coverage*

Wildlife Conservation, etc., Military Reservations, Army	21X5095	$338,600
Wildlife Conservation, etc., Military Reservations, Navy	17X5095	-0-
Wildlife Conservation, etc., Military Reservations, Air Force	57X5095	9,000
		$347,600

Justification

These are permanent appropriations. The budgetary resources consist of anticipated receipts and unobligated balances generated from hunting and fishing fees collected on military reservations, pursuant to 16 U.S.C. 670. They may be used only in accordance with the purpose of the law - to carry out a program of natural resource conservation.

Since apportionments have been made for all known program requirements, prudent financial management requires the deferral of the balance of the funds, which could not be used effectively during the current year even if made available for obligation. These funds are being deferred under the provisions of the Antideficiency Act (31 U.S.C. 665). Full apportionment is not requested by the Services because (1) installations may be accumulating funds over a period of time to fund a major project, and (2) there is a seasonal relationship between the collection of fees

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1/ The OMB identification code that appeared in the FY 1977 budget was 08-30-9922-0-2-303.

*Revised from previous report.

and their subsequent expenditure. Most of the fees are collected during the winter and spring months, while most of the program work is performed during the summer and fall months. This necessitates that funds collected in a prior year be deferred in order to be available to finance the program during the summer and fall months. Additional amounts will be apportioned if program requirements are identified. This deferral continues through September 30, 1976.

Estimated Effects

These deferrals have no programmatic or budgetary effect because the funds could not be obligated if made available.

Outlay Effect (estimated in millions of dollars)

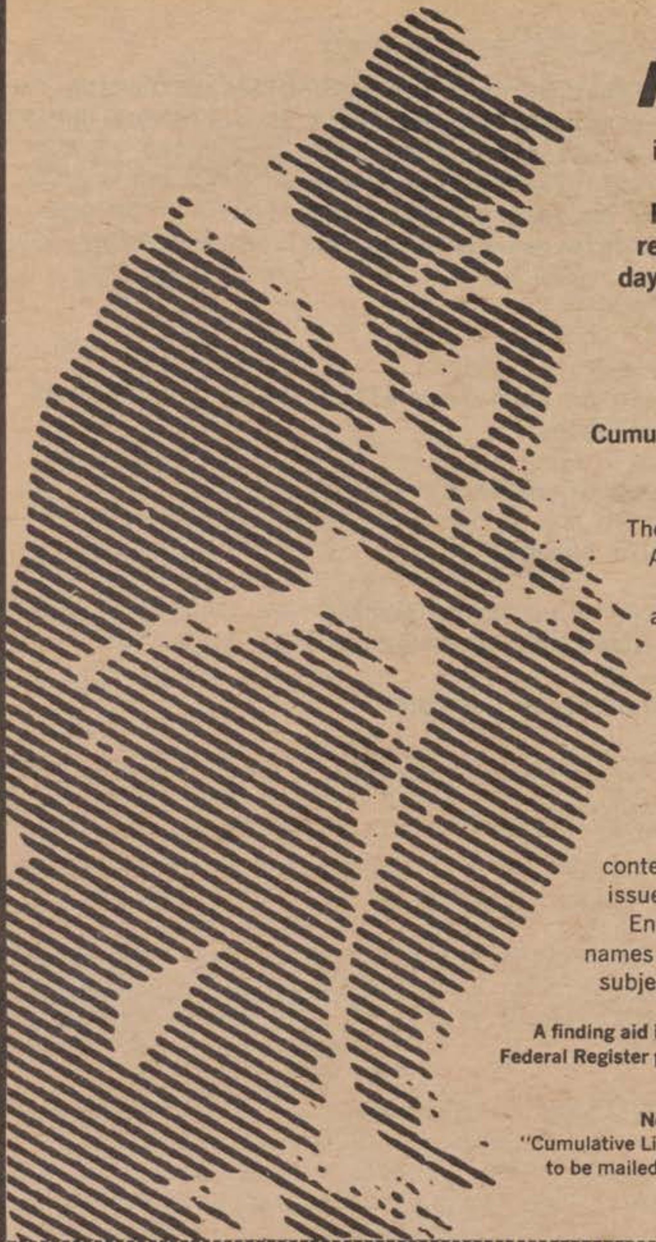
Comparison with the President's 1977 Budget:

1. Budget outlay estimate for the Transition Quarter	.3
2. Outlay savings, if any, included in the budget outlay estimate	.0

Current outlay estimate for the Transition Quarter:

3. Without deferral	.3
4. With deferral	.3
5. Current outlay savings (line 3 - line 4)	.0
Outlay savings for 1977	.0
Outlay savings for 1978	.0

[FR Doc.76-28272 Filed 9-23-76;11:13 am]



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BOOK 2 OF 2 BOOKS

MONDAY, SEPTEMBER 27, 1976

THE NATIONAL ARCHIVES OF THE UNITED STATES
1934

PART IV:

DEPARTMENT OF TRANSPORTATION

Materials Transportation Bureau

■

HAZARDOUS MATERIALS REGULATIONS, 49 CFR PARTS 171-177

Interim Publication

NOTE: This Part IV contains an interim publication of 49 CFR Parts 171–177. This consolidation, including amendments published from October 1, 1975, through September 20, 1976, is printed as a convenience for the user. The official text of these parts will appear in the Code of Federal Regulations volume 49 CFR Parts 100–199 as of January 3, 1977.

Title 49—Transportation

CHAPTER I—MATERIALS TRANSPORTATION BUREAU, DEPARTMENT OF TRANSPORTATION

HAZARDOUS MATERIALS REGULATIONS; PARTS 171–177

Interim Publication

NOTE.—An effective date note appears at the beginning of each of parts 171–177 and applies solely to amendments or revisions published under Docket HM-103/112 (41 FR 15972, Apr. 15, 1976; 41 FR 26014, June 24, 1976; 41 FR 40691, Sept. 20, 1976).

A list of CFR Sections Affected for 49 CFR Parts 171–177 showing changes from Oct. 1, 1975 through Sept. 20, 1976, and a table of Pages and Dates appears at the end of this Part IV.

PART 171—GENERAL INFORMATION, REGULATIONS, AND DEFINITIONS

Sec.

171.1 Purpose and scope.
171.2 General transportation requirements.
171.3 [Reserved]
171.4 Changes in specifications for tank cars.
171.5 Procedure covering tank car construction.
171.6 [Reserved]
171.7 Matter incorporated by reference.
171.8 Definitions and abbreviations.
171.9 Rules of construction.
171.10 Flammable or combustible liquids in bulk on board vessels.
171.11 [Reserved]
171.12 Import and export shipments.
171.13 Emergency regulations.
171.14 Specification markings.
171.15 Immediate notice of certain hazardous materials incidents.
171.16 Detailed hazardous materials incident reports.

AUTHORITY: 18 U.S.C. 834, 46 U.S.C. 170(7) (49 U.S.C. 1471, 1472(h)(1), 1807), 49 CFR 1.53(e)–(h).

AUTHORITY: 49 U.S.C. 1804, 1808; 49 CFR 1.53(e) unless otherwise noted.

EFFECTIVE DATE NOTE: The above authority citation becomes effective Jan. 3, 1977.

SOURCE: 29 FR 18652, Dec. 29, 1964, unless otherwise noted. Redesignated at 32 FR 5606, Apr. 5, 1967.

EFFECTIVE DATE NOTE: (1) Except as provided in paragraphs (2) through (4), compliance with the provisions of this amendment is not mandatory until January 1, 1977.

(2) Compliance with the provisions of this amendment pertaining to the information required to appear on a shipping paper or the format of a shipping paper, is not mandatory until July 1, 1977. (See note to 49 CFR 172.204(a) regarding delayed compliance with that section's required use of a newly worded shipper's certification.)

(3) A package filled, marked or labeled before July 1, 1976, in accordance with regulations in effect on June 30, 1976, may be offered for transportation and transported, even though it does not comply with the package, marking and labeling provisions of this amendment, if it (i) is offered for transportation before July 1, 1977, and (ii) complies with the package, marking and labeling regulations in effect on June 30, 1976.

(4) Compliance with the provisions of this amendment appearing in Subpart F of Part 172 (Placarding) is not mandatory until July 1, 1977.

(5) Under the authority of any of the preceding four numbered paragraphs:

(i) When a provision of this amendment is not complied with, the comparable provision (if any) of the regulations in effect on June 30, 1976, shall be complied with; however,

(ii) The hazard class and description of a material indicated on a shipping paper must be the same as the hazard class indicated on the label (if any) displayed, and the description marked, on the package containing that material.

(6) For purposes of the application of Part 174 (except § 174.25) to rail cars from July 1, 1976, to July 1, 1977, placards specified in this amendment, and placards specified under regulations in effect on June 30, 1976, may be treated as equivalent according to the following table:

Hazard class (material)	Placard adopted under docket No. HM-103/112	Equivalent placard required by pt. 174 on June 30, 1976
Explosives A	EXPLOSIVES A	EXPLOSIVES.
Explosives B	EXPLOSIVES B	DANGEROUS.
Explosives C	FLAMMABLE	None.
Flammable liquid	FLAMMABLE	DANGEROUS.
Flammable solid	FLAMMABLE SOLID	DANGEROUS.
Oxidizer	OXIDIZER	DANGEROUS.
Corrosive liquid	CORROSIVE	DANGEROUS.
Nonflammable gas	NONFLAMMABLE GAS	DANGEROUS.
Flammable gas	FLAMMABLE GAS	DANGEROUS.
Poison A	POISON GAS	POISON GAS.
Poison B	POISON	DANGEROUS.
Radioactive material	RADIOACTIVE	DANGEROUS—RADIOACTIVE MATERIAL.
Organic peroxide	ORGANIC PEROXIDE	DANGEROUS.
(Chlorine)	CHLORINE	DANGEROUS.
(Oxygen, pressurized liquid)	OXYGEN	DANGEROUS.

(7) This amendment does not terminate any outstanding exemption issued under 49 CFR, Part 107 or its predecessor authorities. Any exemption from a regulatory requirement in effect on June 30, 1976, which is modified or replaced by this amendment, continues in effect:

(i) By its own terms, to the extent that continued compliance with that regulatory requirement is required or authorized by this amendment; and

(ii) For any provision of this amendment which is equivalent to that regulatory requirement.

§ 171.1 Purpose and scope.

This subchapter prescribes the requirements of the Department of Transportation governing the transportation of hazardous materials in commerce.

[Amdt. 171–32, 41 FR 15993, Apr. 15, 1976.]

§ 171.2 General transportation requirements.

(a) Except as provided in § 171.12, no person may offer or accept a hazardous material for transportation in commerce within the United States unless that material is properly classed, described, packaged, marked, labeled, and in the condition for shipment as required by this subchapter.

(b) Except as provided in § 171.12, no person may transport a hazardous material in commerce within the United States unless that material is handled and transported in accordance with this subchapter.

(c) No person may represent, mark, certify, or sell a packaging or container as meeting the requirements of this subchapter governing the use of that packaging or container in the transportation in commerce of a hazardous material unless the packaging or container is manufactured, fabricated, marked, maintained, reconditioned, or repaired, as the case may be, in accordance with this subchapter.

[Amdt. 171–32, 41 FR 15993, Apr. 15, 1976, as amended by Amdt. 171–34, 41 FR 38179, Sept. 9, 1976]

EFFECTIVE DATE NOTE: At 41 FR 38179, Amdt. 171–34, Sept. 9, 1976, § 171.2(c) was added, effective Jan. 3, 1977.

§ 171.3 [Reserved]

§ 171.4 Changes in specifications for tank cars.

(a) See § 179.4 of this chapter.

[31 F.R. 9068, July 1, 1966]

§ 171.5 Procedure covering tank car construction.

(a) See § 179.3 of this chapter.

[Order 71, 31 F.R. 9068, July 1, 1966]

§ 171.6 [Reserved]

§ 171.7 Matter incorporated by reference.

(a) There is incorporated by reference in Parts 170–189 of this chapter all matter referred to that is not specifically set forth. These materials are hereby made a part of the regulations in Part 170–189 of this chapter. Unless the reference provides otherwise, matter subject to change is incorporated only as it is in effect on the date of issuance of the regulation referring to that matter.

(b) All incorporated matter is available for inspection in the Docket Room, Room 6215F, of the Buzzards Point Building, Second and V Streets SW., Washington, D.C. 20590.

(c) Matter incorporated by reference is available for distribution as follows:

(1) ASME: American Society of Mechanical Engineers, United Engineering Center, 345 East 47th Street, New York, N.Y. 10017.

(2) American National Standard: American National Standards Institute, Inc., 1430 Broadway, New York, N.Y. 10018.

(3) CGA: Compressed Gas Association, Inc., 500 Fifth Avenue, New York, N.Y. 10036.

(4) Bureau of Explosives: Bureau of Explosives, Association of American Railroads, American Railroads Building, 1920 L Street NW., Washington, D.C. 20036.

(5) AAR: Association of American Railroads, 59 East Van Buren Street, Chicago, Ill. 60605.

(6) ASTM: American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pa. 19103.

(7) API: American Petroleum Institute, 1801 K Street NW., Washington, DC 20006.

(8) AISI: American Iron and Steel Institute, 1000 16th Street NW., Washington, D.C. 20036.

(9) The Chlorine Institute, 342 Madison Avenue, New York, N.Y. 10017.

(10) MCA: Manufacturing Chemists' Association, Inc., 1825 Connecticut Avenue, NW., Washington, D.C. 20009.

(11) NFPA: National Fire Protection Association, 60 Batterymarch Street, Boston, Mass. 02110.

(12) Aluminum Association: The Aluminum Association, 420 Lexington Avenue, New York, N.Y. 10017.

(13) NACE: National Association of Corrosion Engineers, 2400 West Loop South, Houston, TX 77027.

(14) IME: Institute of Makers of Explosives, 420 Lexington Avenue, New York, NY 10017.

(15) IAEA: International Atomic Energy Agency, Karnter Ring 11, Post Office Box 590, A-1011, Vienna, Austria (IAEA publications may be purchased in the United States from: Unipub, Inc., Post Office Box 433, New York, NY 10016).

(16) USAEC: U.S. Atomic Energy Commission, Washington, D.C. 20545. Regulations of the USAEC are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Other publications by the USAEC may be obtained from the National Technical Information Center, U.S. Department of Commerce, Springfield, Va. 22151.

(17) Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

(18) National Wooden Box Association, Post Office Box 1010, Cumberland, Maryland 21502.

(19) TFI: The Fertilizer Institute, 1015 18th Street N.W., Washington, D.C. 20036.

(20) AWWA: American Water Works Association, 2 Park Avenue, New York, New York 10016.

(21) AWS: American Welding Society, 345 East 47th Street, New York, New York 10016.

(22) USDC: U.S. Department of Commerce, National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22151.

(23) Inter-governmental Maritime Consultative Organization, 101-104 Piccadilly, London, WIV OAE, England.

(24) Uniform Classification Committee, 222 South Riverside Plaza, Chicago, Ill. 60606.

(25) USERDA: United States Energy Research and Development Administration, Washington, D.C. 20545.

(26) USNRC: United States Nuclear Regulatory Commission, Washington, D.C. 20555.

(d) The full title and application of the matter incorporated by reference in Parts 170-189 of this chapter are as follows:

(1) ASME Code means sections VIII (Division I) and IX of the 1974 edition of the "American Society of Mechanical Engineers Boiler and Pressure Vessel Code," and addenda thereto through December 31, 1975.

(2) AAR Specifications for Tank Cars means the 1970 edition of the "Association of American Railroads Specification for Tank Cars".

(3) Compressed Gas Association:

(i) CGA Pamphlet C-3 is titled, "Standards for Welding and Brazing on Thin Walled Containers," 1968 edition;

(ii) CGA Pamphlet C-6 is titled, "Standards for Visual Inspection of Compressed Gas Cylinders," 1968 edition;

(iii) Compressed Gas Association pamphlet C-7, Appendix A is titled, "A Guide for the Precautionary Markings for Compressed Gas Containers", dated May 15, 1971, Addenda issued January 1976.

(iv) CGA Pamphlet C-8 is titled, "Standard for Requalification of DOT-3HT Cylinders," 1972 edition.

(v) CGA Pamphlet S-1.2 is titled, "Safety Relief Device Standards Part 2—Cargo and Portable Tanks for Compressed Gases," 1966 edition.

(4) American National Standards:

(i) American National Standard B9.1, is titled, "Safety Code for Mechanical Refrigeration," 1964 edition.

(ii) American National Standard B16.5 is titled, "Steel Pipe Flanges and Fittings," 1968 edition.

(iii) American National Standard N14.1 is titled, "Packaging of Uranium Hexafluoride for Transport," 1971 edition.

(5) American Society for Testing and Materials:

(i) ASTM D1310 is titled, "Standard Method of Test for Flash Point of Volatile Flammable Materials By Tag Open-Cup Apparatus," 1967 edition;

(ii) ASTM D323 is titled, "Test for Vapor Pressure of Petroleum Products (Reid Method)," 1958(68) edition.

(iii) ASTM D1056 is titled, "Sponge and Expanded Cellular Rubber Products, Spec. and Tests for," 1968 edition.

(6) NFPA Pamphlet No. 58 is titled, "Standard for the Storage and Handling of Liquefied Petroleum Gases," 1972 edition.

(7) Bureau of Explosives, Association of American Railroads:

(i) Bureau of Explosives Pamphlet No. 6 is titled, "Illustrating Methods for Loading and Bracing Carload and Less Than Carload Shipments of Explosives and Other Dangerous Articles," 1962 edition.

(ii) Bureau of Explosives Pamphlet No. 6A (includes appendix No. 1, October 1944, and appendix No. 2, December 1945) is titled, "Illustrating Methods for Loading and Bracing Carload and Less Than Carload Shipments of Loaded Projectiles, Loaded Bombs, etc.," 1943 edition.

(iii) Bureau of Explosives Pamphlet No. 6C is titled, "Illustrating Methods for Loading and Bracing Trailers and Less-Than Trailer Shipments of Explosives and Other Dangerous Articles via Trailer-on-Flat-Car (TOFC) or Container-on-Flat-Car (COFC)," September 1968.

(iv) Bureau of Explosives Pamphlets 1 and 2 titled "Emergency Handling of Hazardous Materials in Surface Transportation" June 1973.

(8) NACE Standard TM-01-69 is titled, "Test Method Laboratory Corrosion Testing of Metals for the Process Industries," 1969 edition.

(9) IME Standard is titled, "IME Standard for the Safe Transportation of Electric Blasting Caps in the Same Vehicle With Other Explosives," dated November 5, 1971 (IME Safety Library Publication No. 22).

(10) IAEA "Regulations for the Safe Transport of Radioactive Materials," 1967 edition, safety series No. 6.

(11) United States Atomic Energy Commission (USAEC).

(i) Title 10, Code of Federal Regulations, Part 71 is titled "Packaging of Radioactive Materials for Transport and Transportation of Radioactive Materials Under Certain Conditions."

(12) U.S. Department of Commerce, National Bureau of Standards Handbook H28 (1957)—Part II is titled "Screw-Thread Standards for Federal Services 1957," December 1966 edition.

(13) National Wooden Box Association's Specification 1-1B is titled "Specifications for Nailed Wooden and Lock Corner Boxes for Industrial Use" May 1958. Amended in part October 1961.

(14) American Water Works Association (AWWA) Standard C207-55 is titled, "AWWA Standard for Steel Pipe Flanges," 1955 edition.

(15) American Welding Society (AWS):

(i) AWS Code B-3.0 is titled, "Standard Qualification Procedure," 1972 edition.

(ii) AWS Code D-1.0 is titled, "Code for Welding in Building Construction," 1966 edition.

(16) USDC, CAPE-1662, one of the series of "Civilian Applications Program Engineering Drawings" which is a package of information including drawings and bills of material, describing phenolic-foam insulated, protective overpacks.

(i) USDC, USAEC Material and Equipment Specification No. SP-9, is titled, "Fire Resistant Phenolic Foam."

(ii) USDC, ORO-651 is titled, "Uranium Hexafluoride Handling Procedures and Container Criteria," Revision 3, 1972 edition.

(17) "International Maritime Dangerous Goods Code," (IMCO code) Volumes I, II, and III.

(18) "Uniform Freight Classification 11."

(e) Matters referenced by footnote are included as part of the regulations of this subchapter.

[Amdt. 171-4, 34 FR 18247, Nov. 14, 1969, as amended by Amdt. 171-5, Amdt. 171-9, 35 FR 18382, Dec. 3, 1970; Amdt. 171-9, 36 FR 13093, July 14, 1971; Amdt. 171-11, 36 FR 16580, Aug. 24, 1971; Amdt. 171-12, 36 FR 17649, Sept. 3, 1971; Amdt. 171-13, 36 FR 18469, Sept. 15, 1971; Amdt. 171-14, 37 FR 5947, Mar. 23, 1972; Amdt. 171-16, 38 FR 4332, Feb. 13, 1973; Amdt. 171-17, 38 FR 4397, Feb. 14, 1973; Amdt. 171-21, 38 FR 21990, Aug. 15, 1973; Amdt. 171-22, 38 FR 23792, Sept. 4, 1973; Amdt. 171-23, 39 FR 10910, Mar. 22, 1974; Amdt. 171-24, 39 FR 12750, Apr. 8, 1974; Amdt. 171-25, 39 FR 30135, Aug. 21, 1974; Amdt. 171-28, 39 FR 45240, Dec. 31, 1974; Amdt. 171-31, 40 FR 52037, Nov. 7, 1975; Amdt. 171-32, 41 FR 15994, Apr. 15, 1976; Amdt. 171-33, 41 FR 18656, May 6, 1976; Amdt. 171-32A, 41 FR 40629, Sept. 20, 1976]

§ 171.8 Definitions and abbreviations.

In this subchapter,

"Approved" means approval issued or recognized by the Department unless otherwise specifically indicated in this subchapter.

"Away from" See § 176.83.

"Barge" means a non-selfpropelled vessel.

"Bottle" means a container having a neck of relatively smaller cross section than the body and an opening capable of holding a closure for retention of the contents.

"Break-bulk" means packages of hazardous materials that are handled individually, palletized, or unitized for purposes of transportation as opposed to bulk and containerized freight.

"Bureau of Explosives" means the Bureau of Explosives (B of E) of the Association of American Railroads.

"C" means Celsius or Centigrade.

"Captain of the Port" means the Officer of the Coast Guard, under the command of a District Commander, so designated by the Commandant for the purpose of giving immediate direction to Coast Guard law enforcement activities within his assigned area or, with respect to remaining areas in his District not assigned to officers designated by the Commandant, the District Commander.

"Carfloat" means a vessel that operates on a short run on an irregular basis and serves one or more points in a port area as an extension of a rail line or highway over water, and does not operate in ocean, coastwise, or ferry service.

"Cargo-only aircraft" means an aircraft that is used to transport cargo and is not engaged in carrying passengers.

"Cargo tank" means any tank permanently attached to or forming a part of any motor vehicle or any bulk liquid or compressed gas packaging not permanently attached to any motor vehicle which by reason of its size, construction, or attachment to a motor vehicle, is loaded or unloaded without being removed from the motor vehicle. Any packaging fabricated under specifications for cylinders is not a cargo tank.

"Cargo vessel" means: (1) Any vessel other than a passenger vessel; and

(2) Any ferry being operated under authority of a change of character certificate issued by a Coast Guard Officer-in-Charge, Marine Inspection.

"Carrier" means a person engaged in the transportation of passengers or property by: (1) Land or water, as a common, contract, or private carrier, or (2) Civil aircraft.

"CC" means closed-cup.

"Character of vessel" means the type of service in which the vessel is engaged at the time of carriage of a hazardous material.

"Civil aircraft" means aircraft other than public aircraft.

"Class A explosives" See § 173.53.

"Class B explosives" See § 173.88.

"Class C explosives" See § 173.100.

"COFC" means container-on-flat-car.

"Combustible liquid" See § 173.115.

"Compressed gas" See § 173.300.

"Consumer commodity" means a material that is packaged and distributed in a form intended and suitable for sale through retail sales agencies or instrumentalities for consumption by individuals for purposes of personal care or household use. This term also includes drugs and medicines.

"Containership" means a cargo vessel designed and constructed to transport, within specifically designed cells, portable tanks and freight containers which are lifted on and off with their contents intact.

"Corrosive material" See § 173.240.

"Crewmember" means a person assigned to perform duty in an aircraft during flight time.

"Cylinder" means a pressure vessel designed for pressures higher than 40 psia and having a circular cross section. It does not include a portable tank, multi-unit tank car tank, cargo tank, or tank car.

"District Commander" means the District Commander of the Coast Guard, or his authorized representative, who has jurisdiction in the particular geographical area.

"DOD" means the U.S. Department of Defense.

"Engine" means a locomotive propelled by any form of energy and used by a railroad.

"Etiologic agent" See § 173.386.

"°F" means degree Fahrenheit.

"Ferry vessel" means a vessel which is limited in its use to the carriage of deck passengers or vehicles or both, operates on a short run on a frequent schedule between two points over the most direct water route, other than in ocean or coastwise service, and is offered as a public service of a type normally attributed to a bridge or tunnel.

"Flammable gas" See § 173.300(b).

"Flammable liquid" See 173.115(a)(1).

"Flammable solid" See § 173.150.

"Flash point" means the minimum temperature at which a substance gives off flammable vapors which in contact with spark or flame will ignite. For liquids, see § 173.115 and for solids, see § 173.150.

"Freight container" means a reusable container having a volume of 64 cubic feet or more, designed and constructed to permit being lifted with its contents intact and intended primarily for containment of packages (in unit form) during transportation.

"Fuel tank" means a tank other than a cargo tank, used to transport flammable or combustible liquid, or compressed gas for the purpose of supplying fuel for propulsion of the transport vehicle to which it is attached, or for the operation of other equipment on the transport vehicle.

"Full load" applies only to radioactive materials. See § 173.389 of this subchapter for its definition.

"Gross weight" means the weight of a packaging plus the weight of its contents.

"Hazardous material" means a substance or material which has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce, and which has been so designated.

"Hermetically sealed" means closed by fusion, gasketing, crimping, or equivalent means so that no gas or vapor can enter or escape.

"IATA" means International Air Transport Association.

"IMCO" means Inter-governmental Maritime Consultative Organization.

"Intermodal container" means a freight container designed and constructed to permit it to be used interchangeably in two or more modes of transport.

"Irritating material" See § 173.381.

"Limited quantity," when specified as such in a section applicable to a particular material with the exception of Poison B materials, means the maximum amount of a hazardous material for which there is a specific labeling and packaging exception.

"Magnetic materials" See § 173.1020.

"Magazine vessel" means a vessel used for the receiving, storing, or dispensing of explosives.

"Marking" means applying the descriptive name, instructions, cautions, weight, or specification marks or combination thereof required by this subchapter to be placed upon outside containers of hazardous materials.

"Mixture" means a material composed of more than one chemical compound or element.

"Mode" means any of the following transportation methods; rail, highway, air, or water.

"Motor vehicle" includes a vehicle, machine, tractor, trailer, or semitrailer, or any combination thereof, propelled or drawn by mechanical power and used upon the highways in the transportation of passengers or property. It does not include a vehicle, locomotive, or car operated exclusively on a rail or rails, or a trolley bus operated by electric power derived from a fixed overhead wire, furnishing local passenger transportation similar to street-railway service.

"Name of contents" means the proper shipping name as specified in § 172.101.

"Navigable waters" means the navigable waters of the United States, its territories, and possessions, but does not include the navigable waters of the Panama Canal Zone.

"Net weight" means a measure of weight referring only to the contents of a package, and does not include the weight of any packaging material.

"N.O.S." means not otherwise specified.

"NRC (non-reusable container)" means a container whose reuse is restricted in accordance with the provisions of § 173.28.

"Occupied caboose" means a rail car being used to transport non-passenger personnel.

"Officer in Charge, Marine Inspection" means a person from the civilian or military branch of the Coast Guard designated as such by the Commandant and who under the supervision and direction of the Coast Guard District Commander is in charge of a designated inspection zone for the performance of duties with respect to the enforcement and administration of Title 52, Revised Statutes, acts amendatory thereof or supplemental thereto, rules and regulations thereunder, and the inspection required thereby.

"Operator" means a person who controls the use of an aircraft, vessel, or vehicle.

"Organic peroxide" See § 173.151.

"ORM" means Other Regulated Materials.

"Outside container" means the outermost enclosure used in transporting a hazardous material other than a freight container.

"Overpack" means an enclosure not intended for reuse that is used by a single consignor to consolidate two or more packages for convenience in handling.

"Oxidizer" or "Oxidizing material" See § 173.151.

"Package" or "Outside Package" means a packaging plus its contents.

"Packaging" means the assembly of one or more containers and any other components necessary to assure compliance with the minimum packaging requirements of this subchapter and includes containers (other than freight containers or overpacks), portable tanks, cargo tanks, tank cars, and multi-unit tank car tanks.

"Passenger" (With respect to vessels and for the purposes of Part 176 only) means a person being carried on a vessel other than—

(1) The owner or his representative,

(2) The operator;

(3) A bona fide member of the crew engaged in the business of the vessel who has contributed no consideration for his carriage and who is paid for his services; or

(4) A guest who has not contributed any consideration directly or indirectly for his carriage.

"Passenger-carrying aircraft" means an aircraft that carries any person other than a crewmember, company employee, an authorized representative of the United States, or a person accompanying the shipment.

"Passenger vessel" means—(1) A vessel subject to any of the requirements of the International Convention for the Safety of Life at Sea, 1960, which carries more than 12 passengers;

(2) A cargo vessel documented under the laws of the United States and not subject to the Convention, which carries more than 16 passengers;

(3) A cargo vessel of any foreign nation that extends reciprocal privileges and is not subject to the Convention and which carries more than 16 passengers; and

(4) A vessel engaged in a ferry operation and which carries passengers.

"Person" means an individual, firm, co-partnership, corporation, company, association, or joint-stock association, and includes any trustee, receiver, assignee, or personal representative thereof.

"Placarded car" means a rail car which is placarded in accordance with the requirements of Part 172 of this subchapter except those cars displaying only the FUMIGATION placards as required by § 172.510.

"Poison A" See § 173.326.

"Poison B" See § 173.343.

"Portable tank" means any packaging (except a cylinder having a 1000-pound or less water capacity) over 110 U.S. gallons capacity and designed primarily to be loaded into or on or temporarily attached to a transport vehicle or ship, and equipped with skids, mounting, or accessories to facilitate handling of the tank by mechanical means. It does not include any cargo tank, tank car tank, tank of the DOT-106A or 110A type, or trailers carrying 3AX, 3AAX, or 3T cylinders.

"Private track" or "Private siding" means track located outside of a carrier's right-of-way, yard, or terminals where the carrier does not own the rails, ties, roadbed, or right-of-way and includes track or portion of track which is devoted to the purpose of its user either by lease or written agreement, in which case the lease or written agreement is considered equivalent to ownership.

"Proper shipping name" means the name of the hazardous material shown in Roman print (not italics) in § 172.101 of this subchapter.

"P.s.i.a. or psia" means pounds per square inch absolute.

"P.s.i.g. or psig" means pounds per square inch gauge.

"Public aircraft" means an aircraft used only in the service of a government or political subdivision. It does not include a government-owned aircraft engaged in carrying passengers or property for commercial purposes.

"Public vessel" means a vessel owned by and being used in the public service of the United States. It does not include a vessel owned by the United States and engaged in a trade or commercial service or a vessel under contract or charter to the United States.

"Pyrophoric liquid" See § 173.115.

"Pyrophoric solid" See § 173.150.

"Radioactive materials" See § 173.389.

"Railroad" means a person engaged in transportation by rail.

"Rail freight car" means a car designed to carry freight or non-passenger personnel by rail, and includes a box car, flat car, gondola car, hopper car, tank car, and occupied caboose.

"Research" means investigation of experimentation aimed at the discovery of new theories or laws and the discovery and interpretation of facts or revision of accepted theories or laws in the light of new facts.

"Separated by a complete hold or compartment from" See § 176.83.

"Separated from" See § 176.83.

"Separated longitudinally by a complete hold or compartment from" See § 176.83.

"Sheathing" means a covering consisting of a smooth layer of wood placed over metal and secured to prevent any movement.

"Shipping paper" means a shipping order, bill of lading, manifest or other shipping document serving a similar purpose and containing the information required by §§ 172.202, 172.203 and 172.204.

"STC (single-trip container)" means a container that may not be refilled and reshipped after having been previously emptied, except as provided in § 173.28.

"Solution" means any homogeneous liquid mixture of two or more chemical compounds or elements that will not undergo any segregation under conditions normal to transportation.

"Spontaneously combustible material (solid)" means a solid substance (including sludges and pastes) which may undergo spontaneous heating or self-ignition under conditions normally incident to transportation or which may upon contact with the atmosphere undergo an increase in temperature and ignite.

"Stowage" means the act of placing hazardous materials on board a vessel.

"Strong outside container" means the outermost enclosure which provides protection against the unintentional release of its contents under conditions normally incident to transportation.

"Technical name" means a recognized chemical name currently used in scientific and technical handbooks, journals, and texts. Generic descriptions authorized for use as technical names are, Organic phosphate compound, Organic phosphorus compound, Organic phosphate compound mixture, Organic phosphorus compound mixture, Methyl parathion, and Parathion.

"TOFC" means trailer-on-flat-car.

"Trailership" means a vessel other than a carfloat, specifically equipped to handle highway vehicles, and fitted with installed securing devices to tie down each vehicle.

"Train" means one or more engines coupled with one or more rail cars, except during switching operations or where the operation is that of classifying and assembling rail cars within a railroad yard for the purpose of making or breaking up trains.

"Trainship" means a vessel other than a rail car ferry or carfloat, specifically equipped to transport railroad vehicles, and fitted with installed securing devices to tie down each vehicle.

"Transport vehicle" means a motor vehicle or rail car used for the transportation of cargo by any mode. Each cargo-carrying body (trailer, railroad freight car, etc.) is a separate transport vehicle.

"UFC" means Uniform Freight Classification.

"United States" means the fifty States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, or Guam.

"Vessel" includes every description of watercraft, used or capable of being used as a means of transportation on the water.

"Viscous liquid" means a liquid material which has a measured viscosity in excess of 2500 centistokes at 25° C (77° F°.) when determined in accordance with the procedures specified in ASTM Method D 445-72 "Kinematic Viscosity of Transparent and Opaque Liquids (and the Calculation of Dynamic Viscosity)" or ASTM Method D 1200-70 "Viscosity of Paints, Varnishes, and Lacquers by Ford Viscosity Corp."

"Volatility" refers to the relative rate of evaporation of materials to assume the vapor state.

"Water reactive material (solid)" means any solid substance (including sludges and pastes) which, by interaction with water, is likely to become spontaneously flammable or to give off flammable or toxic gases in dangerous quantities.

"Water resistant" means having a degree of resistance to permeability by and damage caused by water in liquid form.

"W.T." means watertight.

[Amdt. 171-32, 41 FR 15994, Apr. 15, 1976, as amended by Amdt. 171-34, 41 FR 38179, Sept. 9, 1976; Amdt. 171-32A, 41 FR 40629, Sept. 20, 1976]

EFFECTIVE DATE NOTE: In § 171.8, the definition for "United States" was added by Amdt. 171-34, 41 FR 38179, Sept. 9, 1976, effective Jan. 3, 1977.

§ 171.9 Rules of construction.

(a) In this subchapter, unless the context requires otherwise: (1) Words imparting the singular include the plural;

(2) Words imparting the plural include the singular; and;

(3) Words imparting the masculine gender include the feminine;

(b) In this subchapter, the word: (1) "Shall" is used in an imperative sense;

(2) "Must" is used in an imperative sense;

(3) "Should" is used in a recommendatory sense;

(4) "May" is used in a permissive sense to state authority or permission to do the act described, and the words "no person may * * *" or "a person may not * * *" means that no person is required, authorized, or permitted to the act described; and

(5) "Includes" is used as a word of inclusion not limitation.

[Amdt. 171-32, 41 FR 15995, Apr. 15, 1976, as amended by Amdt. 171-32A, 41 FR 40630, Sept. 20, 1976]

§ 171.10 Flammable or combustible liquids in bulk on board vessels.

(a) Nothing in Parts 170-189 of this chapter shall be construed as affecting the transportation of flammable or combustible liquids in bulk on board vessels which transportation is governed by the rules and regulations promulgated under R.S. 4417a; 46 U.S.C. 391a (46 CFR Part 146).

§ 171.11 [Reserved]

§ 171.12 Import and export shipments.

(a) Except in the case of a shipment from Canada conforming to § 173.8, each person importing a hazardous material into the United States shall provide the shipper and the forwarding agent at the place of entry into the United States timely and complete information as to the requirements of this subchapter that will apply to the shipment of the material within the United States. The shipper, directly or through the forwarding agent at the place of entry, shall provide the initial carrier in the United States the certificate of compliance required by § 172.204. The carrier may not accept the material for transportation unless the required certification is provided.

(b) The requirements of § 171.2 with respect to classification and labeling notwithstanding, a hazardous material (other than Class A explosives or radioactive materials) which is classed and labeled in accordance with the IMCO Code and being imported into or exported from the United States or passing through the United States in the course of being shipped between places outside the United States may be offered and accepted for transportation and transported within the United States if it is otherwise offered, accepted, and transported in accordance with this subchapter. When a material is transported within the United States by air, highway, or rail under an IMCO class, the entry on the shipping paper required by § 172.202(a)(2) must include a class set forth in this subchapter that most appropriately corresponds to the IMCO class. For example, according to IMCO, the description and class for ethylene oxide is "Ethylene Oxide, 2" or "Ethylene Oxide, Gas 2,". While ethylene oxide in domestic transportation would be classed a flammable liquid, the class in this subchapter that most appropriately corresponds to the IMCO class is "flammable gas". The proper entry would therefore be "Ethylene Oxide, Flammable Gas" or "Ethylene Oxide, 2 Flammable Gas".

(c) The requirements of § 171.2 with respect to specification identification markings on packages notwithstanding, a package of hazardous materials (other than a compressed gas cylinder or a package of more than 110 gallons capacity) being imported into or exported from the United States or passing through the United States in the course of being shipped between places outside the United States may be offered and accepted for transportation and transported within the United States if the package specification identification markings required by Part 178 are clearly and legibly displayed on the surface of the package or on decals or tags securely affixed to the package, and the package is otherwise offered, accepted, and transported in accordance with this subchapter.

(d) Section 171.2 notwithstanding, a hazardous material (other than an explosive or a radioactive material) being imported into or exported from the United States or passing through the United States in the course of being shipped between places outside the United States may be offered and accepted for transportation and transported by motor vehicle within a single port area (including contiguous harbors) when packaged, marked, classed and labeled in accordance with the IMCO Code, if the hazardous material is offered and accepted in accordance with the requirements of Subparts C and F of Part 172 of this subchapter pertaining to shipping papers and placarding. (See § 176.11 for exceptions applicable to vessels.)

[Amdt. 171-32 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 171-32A, 41 FR 40630, Sept. 20, 1976.]

§ 171.13 Emergency regulations.

(a) Until further order of the Department, shipments of explosives may be made upon requests of the Departments of the Army, Navy, and Air Force of the United States Government complying with the following:

(1) Shippers' and carriers' regulations; handling detonating agents and explosives and explosive ammunition in same car or vehicle. Detonating fuzes, class A explosives, primer-detonator assemblies or other detonating elements containing explosive components, if of a safe type, may be shipped either assembled in bombs, depth charges, mines, projectiles, or torpedoes (torpedo warheads) or in properly packed containers in the same car or vehicle with bombs, depth charges, mines, projectiles, boosters, or torpedoes (torpedo warheads) when separated from the explosive bombs, depth charges, mines, projectiles, boosters, or torpedoes (torpedo warheads) by not less than 3 feet. The intervening space of 3 feet must be filled with dry sand or dry earth in bags or in a crib so constructed or lined as to prevent sifting of the sand or earth. The crib must be secured against movement.

(2) When bomb fuzes are packed with bomb fin assemblies, either crated or boxed in wooden or metal containers, the sand or earth filled space between bombs and the fuzes may be omitted provided adequate blocking and bracing is supplied to prevent the bombs from crushing and injuring the detonating fuzes due to ordinary shocks incident to transportation.

§ 171.14 Specification markings.

(a) Notwithstanding any other requirements of Parts 170-189 of this chapter, the letters "ICC" may continue to be placed on any packaging requiring specification markings until January 1, 1970.

(b) Packagings with the specification markings "ICC" placed thereon before January 1, 1970, may be continued in service as marked.

[Amdt. 171-2, 33 F.R. 17918, Dec. 3, 1968]

§ 171.15 Immediate notice of certain hazardous materials incidents.

(a) At the earliest practicable moment, each carrier who transports hazardous materials shall give notice in accordance with paragraph (b) of this section after each incident that occurs during the course of transportation (including loading, unloading and temporary storage) in which as a direct result of hazardous materials—

(1) A person is killed;

(2) A person receives injuries requiring his hospitalization;

(3) Estimated carrier or other property damage exceeds $50,000;

(4) Fire, breakage, spillage, or suspected radioactive contamination occurs involving shipment of radioactive material. (See also §§ 174.588(c)(1), 175.655 (j)(3), and 177.861(a) of this chapter.); or

(5) Fire, breakage, spillage, or suspected contamination occurs involving shipment of etiologic agents; or

(6) A situation exists of such a nature that, in the judgment of the carrier, it should be reported in accordance with paragraph (b) of this section even though it does not meet the criteria of paragraph (a) (1), (2), or (3) of this section; e.g., a continuing danger of life exists at the scene of the incident.

(b) Each notice required by paragraph (a) of this section shall be given the Department by telephone at Area Code (202) 426-1830. Notice involving etiologic agents may be given the Director, Center for Disease Control, U.S. Public Health Service, Atlanta, Ga., Area Code (404) 633-5313, in place of the notice to the Department. Each notice must include the following information:

(1) Name of reporter.

(2) Name and address of carrier represented by reporter.

(3) Phone number where reporter can be contacted.

(4) Date, time, and location of incident.

(5) The extent of injuries, if any.

(6) Classification, name, and quantity of hazardous materials involved, if such information is available.

(7) Type of incident and nature of hazardous material involvement and whether a continuing danger to life exists at the scene.

(c) Each carrier making a report under this section shall also make the report required by § 171.16.

[Amdt. 171-7, 35 F.R. 16837, Oct. 3, 1970, as amended by Amdt. 171-13, 36 F.R. 21201, Nov. 4, 1971; Amdt. 171-18, 38 FR 8162, Mar. 29, 1973]

§ 171.16 Detailed hazardous materials incident reports.

(a) Each carrier who transports hazardous materials shall report in writing in duplicate on DOT Form F 5800.1[1] to the Department within 15 days of the date of discovery, each incident that occurs during the course of transportation (including loading, unloading, or temporary storage) in which, as a direct result of the hazardous materials, any of the circumstances set forth in § 171.15(a) occurs or there has been an unintentional release of hazardous materials from a package (including a tank).

(b) Each carrier making a report under this section shall send that report to the Secretary, Hazardous Materials Regulations Board, Department of Transportation, Washington, D.C. 20590.

[Amdt. 171-7, 35 F.R. 16837, Oct. 3, 1970]

PART 172—HAZARDOUS MATERIALS TABLE AND HAZARDOUS MATERIALS COMMUNICATIONS REGULATIONS

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APPENDIX A—Specifications for colors.
APPENDIX B—Dimensional specification for placards.
APPENDIX C—Dimensional specifications for recommended placard holder.

AUTHORITY: 18 U.S.C. 834, 46 U.S.C. 170(7) (49 U.S.C. 1471, 1472(h)(1), 1807), 49 CFR 1.53(e)-(h).

AUTHORITY: 49 U.S.C. 1803, 1804; 49 CFR 1.53(e).

EFFECTIVE DATE NOTE: Jan. 3, 1977, for above authority citation.

Source: Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, unless otherwise noted.

EFFECTIVE DATE NOTE: (1) Except as provided in paragraphs (2) through (4), compliance with the provisions of this amendment is not mandatory until January 1, 1977.

(2) Compliance with the provisions of this amendment pertaining to the information required to appear on a shipping paper or the format of a shipping paper, is not mandatory until July 1, 1977. (See note to 49 CFR 172.204(a) regarding delayed compliance with that section's required use of a newly worded shipper's certification.)

(3) A package filled, marked or labeled before July 1, 1976, in accordance with regulations in effect on June 30, 1976, may be offered for transportation and transported, even though it does not comply with the package, marking and labeling provisions of this amendment, if it (i) is offered for transportation before July 1, 1977, and (ii) complies with the package, marking and labeling regulations in effect on June 30, 1976.

(4) Compliance with the provisions of this amendment appearing in Subpart F of Part 172 (Placarding) is not mandatory until July 1, 1977.

(5) Under the authority of any of the preceding four numbered paragraphs:

(i) When a provision of this amendment is not complied with, the comparable provision (if any) of the regulations in effect on June 30, 1976, shall be complied with; however,

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[1] Filed as part of the original document.

(ii) The hazard class and description of a material indicated on a shipping paper must be the same as the hazard class indicated on the label (if any) displayed, and the description marked, on the package containing that material.

(6) For purposes of the application of Part 174 (except § 174.25) to rail cars from July 1, 1976, to July 1, 1977, placards specified in this amendment, and placards specified under regulations in effect on June 30, 1976, may be treated as equivalent according to the following table:

Hazard class (material)	Placard adopted under docket No. HM-103/112	Equivalent placard required by pt. 174 on June 30, 1976
Explosives A	EXPLOSIVES A	EXPLOSIVES.
Explosives B	EXPLOSIVES B	DANGEROUS.
Explosives C	FLAMMABLE	None.
Flammable liquid	FLAMMABLE	DANGEROUS.
Flammable solid	FLAMMABLE SOLID	DANGEROUS.
Oxidizer	OXIDIZER	DANGEROUS.
Corrosive liquid	CORROSIVE	DANGEROUS.
Nonflammable gas	NONFLAMMABLE GAS	DANGEROUS.
Flammable gas	FLAMMABLE GAS	DANGEROUS.
Poison A	POISON GAS	POISON GAS.
Poison B	POISON	DANGEROUS.
Radioactive material	RADIOACTIVE	DANGEROUS—RADIOACTIVE MATERIAL.
Organic peroxide	ORGANIC PEROXIDE	DANGEROUS.
(Chlorine)	CHLORINE	DANGEROUS.
(Oxygen, pressurized liquid)	OXYGEN	DANGEROUS.

(7) This amendment does not terminate any outstanding exemption issued under 49 CFR, Part 107 or its predecessor authorities. Any exemption from a regulatory requirement in effect on June 30, 1976, which is modified or replaced by this amendment, continues in effect:

(i) By its own terms, to the extent that continued compliance with that regulatory requirement is required or authorized by this amendment; and

(ii) For any provision of this amendment which is equivalent to that regulatory requirement.

Subpart A—General

§ 172.1 Purpose and scope.

This Part lists and classifies those materials which the Department of Transportation has designated as hazardous materials for purposes of transportation and prescribes the requirements for shipping papers, package marking, labeling, and transport vehicle placarding applicable to the shipment and transportation of those hazardous materials.

§ 172.3 Applicability.

(a) This Part applies to—(1) Each person who offers a hazardous material for transportation, and

(2) Each carrier by air, highway, rail, or water who transports a hazardous material.

(b) When a person, other than one of those provided for in paragraph (a) of this section, performs a packaging labeling or marking function required by this part, that person shall perform the function in accordance with this part.

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-32, 41 FR 38179, Sept. 9, 1976]

Effective Date Note: § 172.3(b), added at 41 FR 38179, effective Jan. 3, 1977.

Subpart B—Table of Hazardous Materials, Their Description, Proper Shipping Name, Class, Label, Packaging, and Other Requirements

§ 172.100 Purpose and use of the table.

(a) The table set forth in § 172.101 constitutes a designation of the materials listed therein as hazardous materials for purposes of the transportation of those materials in commerce. In addition, it classifies and specifies requirements and references other requirements set forth elsewhere in this subchapter pertaining to the labeling, packaging and transportation of those materials.

(b) Column 1 contains three symbols: *, A, and W. (1) *: An asterisk before a proper shipping name means that the material described in column 2 may or may not be regulated under the class shown depending on whether or not the commodity meets the definition of the hazard class listed for that entry. If the commodity does not meet the definition of the class stated, the shipper shall determine whether or not the material meets the definition of any other hazard class, and shall prepare the material for shipment in compliance with the requirements of that class. A material meeting the description of an asterisk entry is not subject to the requirements of this subchapter if the material does not meet the definition of a hazardous material.

(2) A: The symbol "A" before the shipping name means that the material described in column 2 is subject to the requirements of this subchapter only for transportation by aircraft.

(3) W: The symbol "W" before the shipping name means that the material described in column 2 is subject to the requirements of this subchapter only for transportation by vessel.

(c) Column 2 lists the proper shipping name of those materials which are designated as hazardous materials. Proper shipping names are limited to those shown in Roman type (not italics). In the selection of a proper shipping name to describe a particular material, if the correct technical name of that material is not shown, or is not appropriate, selection must be made from the general descriptions or n.o.s. entries corresponding to the specific hazard class of the material being shipped. The name that more appropriately describes the commodity must be used, i.e., an alcohol must be shipped as an alcohol n.o.s. rather than a flammable liquid n.o.s. unless the technical name of the alcohol is listed (methyl alcohol). Some mixtures may be more aptly described by their application such as: "Compound, cleaning" or "Compound, rust removing," rather than "Corrosive liquid n.o.s." For materials that meet the definition of more than one hazard class, the hazard class must be determined by using the precedence given in § 173.2 of this subchapter. If it is believed that an adequate description of a material is not given in § 172.101, the Office of Hazardous Materials Operations should be contacted for clarification.

(1) Shipping names may be used in the singular or plural in either capital or lower case letters.

(2) The words in italics are not part of the proper shipping name but may be used in addition to the proper shipping name. The word "or" in italics indicates that any terms in the sequence may be used as the proper shipping name as appropriate.

(3) The abbreviation "n.o.i." which means "not otherwise indexed" or "n.o.i.b.n." which means "not otherwise indexed by name" may be used interchangeably with "n.o.s."

(4) When qualifying words are used as part of the proper shipping name, their sequence on package markings and shipping paper descriptions is optional.

(5) When one entry references another entry by use of a "*see*", if both names are in Roman type, either name may be used as a proper shipping name (e.g. Isopropanol *see* Alcohol, n.o.s.).

(6) When a shipping name includes a concentration range as part of the shipping description, the actual concentration being shipped, if it is within the range stated, may be used in place of the concentration range. For example: Hydrogen peroxide solution (8% to 40% peroxide) may be shipped described as "Hydrogen peroxide solution, 30% peroxide." or "30% Hydrogen peroxide solution."

(7) The use of the prefix "mono" is optional in any shipping name. Thus monoethanolamine may be used interchangeably with ethanolamine. In the word "trichloromonofluoromethane" the term "mono" is considered as a prefix to the term "fluromethane".

(d) Column 3 contains a designation of the hazard class corresponding to each proper shipping name or the word "Forbidden". A material for which the class entry is "Forbidden" must not be offered or accepted for transportation. When re-evaluation of test data or new test data indicates a need to modify the hazard class or labels specified for a material specifically identified in § 172.101, these data should be reported to the Office of Hazardous Materials Operations.

(e) Column 4 specifies the labels required to be applied to each outside packaging, subject to the additional labeling requirements in § 127.402.

(f) Column 5 references the applicable packaging section of Part 173. Exceptions from some of the requirements of this subchapter are noted in column 5(a).

References to specific packaging requirements and exceptions other than those specified in 5(a) are noted in column 5(b).

(g) Column 6 indicates the maximum net quantity in one package for air transportation or passenger railcar;

(1) Column 6(a) specifies the maximum net quantity permitted in one package for passenger-carrying aircraft or passenger railcar. For air transportation, any material forbidden on passenger-carrying aircraft but permitted on cargo aircraft, or which exceeds the maximum quantity authorized on passenger-carrying aircraft, must be shipped by cargo-only aircraft and bear the CARGO AIRCRAFT ONLY label as described in § 172.448.

(2) Column 6(b) lists the maximum net quantity for one outside package on cargo aircraft. Packaging must bear the CARGO AIRCRAFT ONLY label when the quantity of hazardous material exceeds that authorized on passenger-carrying aircraft, or is forbidden on passenger-carrying aircraft.

(3) For a flammable liquid identified by a n.o.s. entry, the net quantity limitation for carriage aboard a passenger-carrying aircraft or railcar is one gallon per package, and for cargo-only aircraft is 55 gallons per package, if:

(i) The material has a flash point of 73° F. or higher;

(ii) The material does not meet the definition of any other hazard class as defined in this part, and

(iii) The flash point, or an indication that the flash point is 73° F. or higher, is marked on the outside package.

(h) Column 7 specified each of the authorized locations on board cargo vessels and passenger vessels and certain additional requirements for shipments of each listed hazardous material. Section 176.63 of this subchapter sets forth the physical requirements for each of the authorized locations listed in Column 7. (For bulk shipments by water see 46 CFR Parts 30 to 40, 48, 64, 70, 98, 148, 151, and 154.)

(1) "1" means the material may be stowed "on deck" subject to the requirements of § 176.63(b) of this subchapter. When both "on deck" and "under deck" are authorized, "under deck" should be used if it is available.

(2) "2" means the material may be stowed "under deck" in a compartment or hold subject to the requirements of § 176.63(c). When both "on deck" and "under deck" are authorized, "under deck" should be used if it is available.

(3) "3" means the material may be stowed "under deck away from heat" in a ventilated compartment or hold subject to the requirements of § 176.63(d) of this subchapter.

(4) "4" means the material is authorized to be transported in only the limited quantities specified in the CFR section listed in Column 5 and is subject to the stowage requirements specified for a cargo vessel for the same material.

(5) "5" means the material is forbidden and may not be offered or accepted for transportation.

(6) "6" means the material is authorized to be transported in a magazine subject to the requirements of §§ 176.135 through 176.144 of this subchapter.

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-29-A, 41 FR 40630, Sept. 20, 1976.]

§ 172.101 Hazardous Materials Table.

(1)	(2)	(3)	(4)	(5)		(6)		(7)		
				Packaging		Maximum net quantity in one package		Water shipments		
•/W/A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Accumulator, pressurized (*pneumatic or hydraulic*), *containing nonflammable gas*	Nonflammable gas	Nonflammable gas	173.306		No limit		1,2	1,2	
	Acetal	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,3	4	
	Acetaldehyde (*ethyl aldehyde*)	Flammable liquid	Flammable liquid	None	173.119	Forbidden	10 gallons	1,3	5	
A	Acetaldehyde ammonia	ORM-A	None	173.505	173.510					
•	Acetic acid (*aqueous solution*)	Corrosive material	Corrosive	173.244	173.245	1 quart	10 gallons	1,2	1,2	Stow separate from nitric acid or oxidizing materials
	Acetic acid, glacial	Corrosive material	Corrosive	173.244	173.245	1 quart	10 gallons	1,2	1,2	Stow separate from nitric acid or oxidizing materials. Segregation same as for flammable liquids
	Acetic anhydride	Corrosive material	Corrosive	173.244	173.245	1 quart	1 gallon	1,2	1,2	
	Acetone	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,3	4	
	Acetone cyanohydrin	Poison B	Poison	None	173.346	Forbidden	55 gallons	1	5	Shade from radiant heat. Stow away from corrosive materials
	Acetone oil	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Acetonitrile	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1	4	Shade from radiant heat
	Acetyl benzoyl peroxide, solid	Forbidden								
	Acetyl benzoyl peroxide solution, *not over 40% peroxide*	Organic peroxide	Organic peroxide	None	173.222	Forbidden	1 quart	1,2	1	
	Acetyl bromide	Corrosive material	Corrosive	173.244	173.247	1 quart	1 gallon	1	1	Keep dry. Glass carboys not permitted on passenger vessels
	Acetyl chloride	Flammable liquid	Flammable liquid	173.244	173.247	1 quart	1 gallon	1	1	Stow away from alcohols. Keep cool and dry. Separate longitudinally by an intervening complete compartment or hold from explosives
	Acetylene	Flammable gas	Flammable gas	None	173.303	Forbidden	300 pounds	1	1	Shade from radiant heat
A	Acetylene tetrabromide	ORM-A	None	173.505	173.510	10 gallons	55 gallons			
	Acetyl iodide	Corrosive material	Corrosive	173.244	173.247	1 quart	1 gallon	1	1	Keep dry. Glass carboys not permitted on passenger vessels
	Acetyl peroxide solution, *not over 25% peroxide*	Organic peroxide	Organic peroxide	173.153	173.222	Forbidden	1 quart	1,2	1	
	Acid butyl phosphate	Corrosive material	Corrosive	173.244	173.245	1 quart	5 gallons	1,2	1,2	Glass carboys in hampers not permitted under deck
	Acid carboy empty. *See* Carboy, empty									
•	Acid, liquid, n.o.s.	Corrosive material	Corrosive	173.244	173.245	1 quart	5 pints	1	4	Keep cool
•	Acid, sludge	Corrosive material	Corrosive	None	173.248	Forbidden	1 quart	1,2	1	
	Acrolein, inhibited	Flammable liquid	Flammable liquid and Poison	None	173.122	Forbidden	1 quart	1,2	5	Keep cool. Stow away from living quarters
	Acrylic acid	Corrosive material	Corrosive	173.244	173.245	1 quart	5 pints	1	1	
	Acrylonitrile	Flammable liquid	Flammable liquid and Poison	None	173.119	Forbidden	1 quart	1,2	5	Keep cool
	Actuating cartridge, explosive (*fire extinguisher, or valve*)	Class C explosive	Explosive C	173.114		50 pounds	150 pounds	1,2	1,2	Keep cool and dry
•	Adhesive, n.o.s. *See* Cement, liquid, n.o.s.									
	Aerosol product, each aerosol container exceeding 50 cubic inches capacity. See Compressed gas, n.o.s.									
•	Air, compressed	Nonflammable gas	Nonflammable gas	173.306	173.302	150 pounds	300 pounds	1,2	1,2	
	Aircraft rocket engine (*Commercial*)	Flammable solid	Flammable solid	None	173.238	Forbidden	550 pounds	1,3	5	
	Aircraft rocket engine igniter (*Commercial*)	Flammable solid	Flammable solid	None	173.238	Forbidden	25 pounds	1,3	5	
	Airplane flare. See Fireworks, special									
•	Alcohol, n.o.s.	Flammable liquid	Flammable liquid	173.118	173.125	1 quart	10 gallons	1,2	1	
•	Alcohol, n.o.s.	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
	Aldrin	Poison B	Poison	173.364	173.376	50 pounds	200 pounds	1,2	1,2	
A	Aldrin, cast solid	ORM-A	None	173.505	173.510	No limit	No limit			
	Aldrin mixture, dry (*with more than 65% aldrin*)	Poison B	Poison	173.364	173.376	50 pounds	200 pounds	1,2	1,2	
A	Aldrin mixture, dry, with 65% or less aldrin	ORM-A	None	173.505	173.510	No limit	No limit			

(1)	(2)	(3)	(4)	(5)		(6)		(7)		
				Packaging		Maximum net quantity in one package		Water shipments		
*/ W/ A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Aldrin mixture, liquid (*with more than 60% aldrin*)	Poison B	Poison	173.345	173.361	1 quart	55 gallons	1,2	1,2	If flash point less than 141 DEG F., segregation same as for flammable liquids
A	Aldrin mixture, liquid, with 60% or less aldrin	ORM-A	None	173.505	173.510					
	Alkaline corrosive battery fluid	Corrosive material	Corrosive	173.244	173.249 173.257	1 quart	5 gallons	1,2	1,2	
	Alkaline corrosive battery fluid with empty storage battery	Corrosive material	Corrosive	None	173.258	Forbidden	5 pints	1,2	1,2	
*	Alkaline corrosive liquid, n.o.s.	Corrosive material	Corrosive	173.244	173.249	1 quart	5 gallons	1,2	1,2	
	Alkaline liquid, n.o.s.	Corrosive material	Corrosive	173.244	173.249	1 quart	5 gallons	1,2	1,2	
*	Alkanesulfonic acid	Corrosive material	Corrosive	173.244	173.245	5 pints	1 gallon	1,2	1	
	Alkyl aluminum halides. See Pyrophoric liquid, n.o.s.									
A	Allethrin	ORM-A	None	173.505	173.510	No limit	No limit			
	Allyl alcohol	Flammable liquid	Flammable liquid and Poison	173.118	173.119	1 quart	10 gallons	1,2	1	
	Allyl bromide	Flammable liquid	Flammable liquid	173.118	173.119	Forbidden	10 gallons	1,2	1	
	Allyl chloride	Flammable liquid	Flammable liquid	None	173.119	Forbidden	10 gallons	1,3	5	
	Allyl chlorocarbonate	Flammable liquid	Flammable liquid	None	173.288	Forbidden	5 pints	1	5	Keep dry. Separate longitudinally by an intervening complete hold or compartment from explosives. Segregation same as for corrosive materials
	Allyl chloroformate. *See* Allyl chlorocarbonate									
	Allyl trichlorosilane	Corrosive material	Corrosive	None	173.280	Forbidden	10 gallons	1	1	Keep dry
	Aluminum alkyls. *See* Pyrophoric liquid, n.o.s.									
	Aluminum bromide, anhydrous	Corrosive material	Corrosive	173.244	173.245b	25 pounds	100 pounds	1,2	1,2	Keep dry
	Aluminum dross, wet *or* hot. *See* Sec. 173.173									
	Aluminum hydride	Flammable solid	Flammable solid and Dangerous when wet	None	173.206	Forbidden	25 pounds	1,2	5	Segregation same as for flammable solid labeled Dangerous When Wet
*	Aluminum, liquid *or* paint. *See* Paint, enamel, lacquer stain, shellac, varnish, etc.									
*	Aluminum, metallic, powder	Flammable solid	Flammable solid	173.232	173.232	25 pounds	100 pounds	1,2	1,2	Keep dry. Segregation same as for flammable solids labeled dangerous when wet
	Aluminum nitrate	Oxidizer	Oxidizer	173.153	173.182	25 pounds	100 pounds	1,2	1,2	
*	Aluminum phosphate solution	Corrosive material	Corrosive	173.244	173.245	1 quart	10 gallons	1,2	1,2	
	Aluminum phosphide	Flammable solid	Flammable solid and Dangerous when wet	None	173.154	Forbidden	25 pounds	1,2	1,2	Stow away from acids and oxidizing materials
	Amatol. See High explosive									
	2-(2-Aminoethoxy) ethanol	Corrosive material	Corrosive	173.244	173.245	1 quart	10 gallons	1,2	1,2	
	N-Aminoethylpiperazine	Corrosive material	Corrosive	173.244	173.245	1 quart	10 gallons	1,2	1,2	
	Aminopropyldiethanolamine	Corrosive material	Corrosive	173.244	173.245	1 quart	10 gallons	1,2	1,2	
	n-Aminopropylmorpholine	Corrosive material	Corrosive	173.244	173.245	1 quart	10 gallons	1,2	1,2	
	bis (Aminopropyl) piperazine	Corrosive material	Corrosive	173.244	173.245	1 quart	10 gallons	1,2	1,2	
	Ammonia, anhydrous	Nonflammable gas	Nonflammable gas	173.306	173.304 173.314 173.315	Forbidden	300 pounds	1,2	4	Stow in well ventilated space
	Ammonia solution (*containing more than 44% ammonia*)	Nonflammable gas	Nonflammable gas	173.306	173.304 173.314 173.315	Forbidden	300 pounds	1,2	4	Stow in well ventilated space
	Ammonia solution (containing 44% or less ammonia in water). See Ammonium hydroxide									
	Ammonium arsenate, solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	Stow away from alkaline corrosives
	Ammonium bifluoride. *See* Ammonium hydrogen fluoride									

§ 172.101 Hazardous Materials Table—(Continued)

(1)	(2)	(3)	(4)	(5)		(6)		(7)		
				Packaging		Maximum net quantity in one package		Water shipments		
*/W/A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Ammonium chlorate	Forbidden								
	Ammonium dichromate (*ammonium bichromate*)	Oxidizer	Oxidizer	173.153	173.154 173.235	25 pounds	100 pounds	1,2	1,2	
A	Ammonium fluoride	ORM-B	None	173.505	173.510 173.800	25 pounds	100 pounds			
*	Ammonium hydrogen fluoride solution	Corrosive material	Corrosive	173.244	173.245	1 quart	5 gallons	1,2	1,2	Keep dry
A	Ammonium hydrogen sulfate	ORM-B	None	173.505	173.510 173.800	25 pounds	100 pounds			
A	Ammonium hydrosulfide solution	ORM-A	None	173.505	173.510 173.605	10 gallons	55 gallons			
*	Ammonium hydroxide (*containing not more than 44% ammonia*)	Corrosive material	Corrosive	173.244	173.245	2 gallons	2 gallons	1	4	
	Ammonium nitrate (no organic coating)	Oxidizer	Oxidizer	173.153	173.182	25 pounds	100 pounds	1,2	1,2	
	Ammonium nitrate (organic coating)	Oxidizer	Oxidizer	173.153	173.182	25 pounds	100 pounds	1,2	1,2	
	Ammonium nitrate-carbonate mixture	Oxidizer	Oxidizer	173.153	173.182	25 pounds	100 pounds	1,2	1,2	
	Ammonium nitrate fertilizer, *containing no more than 0.2% carbon*	Oxidizer	Oxidizer	173.153	173.182	25 pounds	100 pounds	1,2	1,2	
	Ammonium nitrate-fuel oil mixture. See Nitro carbonitrate or *Explosive, Class A or B*									
*	Ammonium nitrate mixed fertilizer	Oxidizer	Oxidizer	173.153	173.182	25 pounds	100 pounds	1,2	1,2	
*	Ammonium nitrate-phosphate	Oxidizer	Oxidizer	173.153	173.182	25 pounds	100 pounds	1,2	1,2	
*	Ammonium perchlorate	Oxidizer	Oxidizer	173.153	173.154 173.239a	25 pounds	100 pounds	1,2	4	Stow away from powdered metals
*	Ammonium perchlorate. *See* High explosives									
	Ammonium permanganate	Oxidizer	Oxidizer	173.153	173.154	Forbidden	Forbidden	1,2	1,2	Separate from ammonium compounds and hydrogen peroxide. This material may be forbidden in water transportation by certain countries
	Ammonium picrate. See High explosive									
	Ammonium picrate, wet (*with 10% or more water*)	Flammable solid	Flammable solid	173.192		1 pound	1 pound	1	4	Stow away from heavy metals and their compounds
A	Ammonium polysulfide solution	ORM-A	None	173.505	173.510 173.605	10 gallons	55 gallons			
W	Ammonium sulfate nitrate	ORM-C	None	173.505	173.910			1,2	1,2	Must not be accepted for transportation while hot. Separate by an intervening hold or compartment from Class A explosives. Separate from other explosives, corrosive materials, flammable solids, liquids, or gases, oxidizing materials, organic peroxides, or organic materials
*	Ammonium sulfide solution	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1,2	
	Ammunition, chemical (containing a Poison A liquid or gas). See Chemical ammunition (containing a Poison A material)									
	Ammunition, chemical (containing a Poison B material). See Chemical ammunition (containing a Poison B material)									
	Ammunition, chemical (containing an irritating liquid or solid). See Chemical ammunition (containing an irritating material)									
	Ammunition, chemical, explosive, with Poison A material	Class A explosive	Explosive A and Poison gas	None	173.59	Forbidden	Forbidden	6	5	No other cargo may be stowed in the same hold with these items
	Ammunition, chemical, explosive, with Poison B material	Class A explosive	Explosive A and Poison	None	173.59	Forbidden	Forbidden	6	5	No other cargo may be stowed in the same hold with these items
	Ammunition, chemical, explosive, with irritant	Class A explosive	Explosive A and Irritant	None	173.59	Forbidden	Forbidden	6	5	No other cargo may be stowed in the same hold with these items
	Ammunition for cannon with empty projectile	Class B explosive	Explosive B	None	173.89	Forbidden	Forbidden	1,2	5	
	Ammunition for cannon with explosive projectile	Class A explosive	Explosive A	None	173.54	Forbidden	Forbidden	6	5	
	Ammunition for cannon with gas projectile	Class A explosive	Explosive A	None	173.54	Forbidden	Forbidden	6	5	
	Ammunition for cannon with illuminating projectile	Class A explosive	Explosive A	None	173.54	Forbidden	Forbidden	6	5	
	Ammunition for cannon with incendiary projectile	Class A explosive	Explosive A	None	173.54	Forbidden	Forbidden	6	5	
	Ammunition for cannon with inert loaded projectile	Class B explosive	Explosive B	None	173.89	Forbidden	Forbidden	1,2.	5	

§ 172.101 Hazardous Materials Table—(Continued)

(1)	(2)	(3)	(4)	(5)		(6)		(7)		
				Packaging		Maximum net quantity in one package		Water shipments		
*/W/A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Ammunition for cannon with smoke projectile	Class A explosive	Explosive A	None	173.54	Forbidden	Forbidden	6	5	
	Ammunition for cannon with solid projectile	Class B explosive	Explosive B	None	173.89	Forbidden	Forbidden	1,2	5	
	Ammunition for cannon without projectile	Class B explosive	Explosive B	None	173.89	Forbidden	Forbidden	1,2	5	
	Ammunition, non-explosive			173.55						
	Ammunition for small-arms with explosive projectile	Class A explosive	Explosive A	None	173.58	Forbidden	Forbidden	6	5	
	Ammunition for small-arms with incendiary projectile	Class A explosive	Explosive A	None	173.58	Forbidden	Forbidden	6	5	
	Ammunition, rocket. See Rocket ammunition									
	Ammunition, small-arms. *See* Small-arms ammunition									
	Amyl acetate	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1,2	
	Amyl acid phosphate	Corrosive material	Corrosive	173.244	173.245	1 quart	10 gallons	1,2	1,2	
	Amylamine	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Amyl chloride	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Amylene, *normal*	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,3	1,3	
	Amyl formate	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Amyl mercaptan	Flammable liquid	Flammable liquid	None	173.141	Forbidden	10 gallons	1,2	1	
	Amyl nitrite	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,3	4	
	Amyl trichlorosilane	Corrosive material	Corrosive	None	173.280	Forbidden	10 gallons	1		Keep dry
	Anhydrous ammonia. *See* Ammonia, anhydrous									
	Anhydrous hydrazine. *See* Hydrazine, anhydrous									
	Anhydrous hydrofluoric acid. *See* Hydrogen fluoride									
	Aniline oil drum, empty EE 173.347(d)	Poison B						1,2	1	Do not accept unless returnable package notice is on drum and the instructions thereon have been carried out
	Aniline oil, liquid	Poison B	Poison	None	173.347	Forbidden	55 gallons	1,2	1,2	Stow away from oxidizing materials and acids
	Anisoyl chloride	Corrosive material	Corrosive	173.244	173.279	1 quart	1 quart	1	1	Keep dry
*	Antifreeze compound, liquid	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
*	Antifreeze compound, liquid	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
*	Antifreeze preparation, liquid	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
*	Antifreeze preparation, liquid	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
	Antimonous chloride. *See* Antimony trichloride									
A	Antimony lactate, solid	ORM-A	None	173.505	173.510	No limit	No limit			
	Antimony pentachloride	Corrosive material	Corrosive	None	173.247	1 quart	1 quart	1	1	Keep dry. Glass carboys not permitted on passenger vessels
*	Antimony pentachloride solution	Corrosive material	Corrosive	173.244	173.245	1 quart	5 pints	1	1	Keep dry. Glass carboys not permitted on passenger vessels
	Antimony pentafluoride	Corrosive material	Corrosive	None	173.246	Forbidden	25 pounds	1	5	Keep dry
A	Antimony potassium tartrate solid	ORM-A	None	173.505	173.510	No limit	No limit			
A	Antimony sulfide, solid	ORM-A	None	173.505	173.510	No limit	No Limit			
	Antimony trichloride, solid	Corrosive material	Corrosive	173.244	173.245b	25 pounds	100 pounds	1,2	1,2	Keep dry
*	Antimony trichloride solution	Corrosive material	Corrosive	173.244	173.245	1 quart	5 pints	1	1	Keep dry
*	Aqua ammonia solution (*containing 44% or less ammonia*). *See* Ammonium hydroxide									
*	Argon	Nonflammable gas	Nonflammable gas	173.306	173.302 173.314	150 pounds	300 pounds	1,3	1,3	
	Argon, liquid pressurized	Nonflammable gas	Nonflammable gas	None	173.304	Forbidden	300 pounds	1,3	1,3	
	Arsenic acid, solid	Poison B	Poison	173.364	173.366	50 pounds	200 pounds	1,2	1,2	
*	Arsenic acid solution	Poison B	Poison	173.345	173.348	1 quart	55 gallons	1,2	1,2	

§ 172.101 Hazardous Materials Table—(Continued)

(1)	(2)	(3)	(4)	(5)		(6)		(7)		
				Packaging		Maximum net quantity in one package		Water shipments		
*/ W/ A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
*	Arsenical compound n.o.s., liquid, *or* arsenical mixture, n.o.s., liquid	Poison B	Poison	173.345	173.346	1 quart	55 gallons	1,2	1,2	
*	Arsenical compound n.o.s., solid, *or* arsenical mixture, n.o.s., solid	Poison B	Poison	173.364	173.367	50 pounds	200 pounds	1,2	1,2	Keep dry
	Arsenical dip, liquid (*sheep dip*)	Poison B	Poison	173.345	173.346	1 quart	55 gallons	1,2	1,2	
	Arsenical dust	Poison B	Poison	173.364	173.368	50 pounds	200 pounds	1,2	1,2	
	Arsenical flue dust	Poison B	Poison	173.364	173.368	50 pounds	200 pounds	1,2	1,2	
	Arsenic bromide, solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
	Arsenic chloride (*arsenious*) liquid. *See* Arsenic trichloride									
	Arsenic iodide, solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
	Arsenic pentoxide, solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
	Arsenic, solid	Poison B	Poison	173.364	173.366	50 pounds	200 pounds	1,2	1,2	
	Arsenic sulfide, solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	Keep dry
	Arsenic trichloride, liquid	Poison B	Poison	173.345	173.346	1 quart	55 gallons	1,2	1,2	
	Arsenic trioxide, solid	Poison B	Poison	173.364	173.366 173.368	50 pounds	200 pounds	1,2		
	Arsenic, white, solid. *See* Arsenic trioxide, solid									
	Arsenious acid, solid. *See* Arsenic trioxide, solid									
*	Arsenious and mercuric iodide solution	Poison B	Poison	173.345	173.346	1 quart	55 gallons	1,2	1,2	
	Arsine	Poison A	Poison gas and Flammable gas	None	173.328	Forbidden	Forbidden	1	5	
W	Asphalt, *at or above its flashpoint*	ORM-C	None	None	None	Forbidden	Forbidden	1	5	When applicable, no fire or residue thereof may be present in the furnace heating the substance while the vehicle is on board a cargo vessel
*	Asphalt, cut back	Flammable liquid	Flammable liquid	173.118	173.131	1 quart	10 gallons	1,2	1	
*	Asphalt, cut back	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
	Automobile, motorcycle, tractor, or other self-propelled vehicle See Motor Vehicle									
	Automobile, motorcycle, tractor, or other self-propelled vehicle, engine, or other mechanical apparatus, with charged electric storage battery, wet See Motor Vehicle									
	1-Aziridinyl phosphine oxide (tris). *See* Tris-(1-aziridinyl) phosphine oxide									
	Bags, burlap, used, must be classed for the hazardous material previously contained in bag. See 173.28, 173.29									
	Bags, sodium nitrate, empty and unwashed	Flammable solid	Flammable solid	None	173.155	Forbidden	25 pounds	1,2	1,2	Separate from flammable gases or liquids, oxidizing materials, or organic peroxides
*	Barium azide, wet, *50% or more water*	Flammable solid	Flammable solid	None	173.239	Forbidden	1 pound	1,2	1,2	Stow away from heavy metals
	Barium chlorate	Oxidizer	Oxidizer	173.153	173.163	25 pounds	100 pounds	1,2	1,2	Separate from ammonium compounds. Stow away from powdered metals
*	Barium chlorate, wet	Oxidizer	Oxidizer	173.153	173.163	25 pounds	200 pounds	1,2	1,2	Separate from ammonium compounds. Stow away from powdered metals
	Barium cyanide, solid	Poison B	Poison	173.370	173.370	25 pounds	200 pounds	1,2	1,2	Stow away from acids
	Barium nitrate	Oxidizer	Oxidizer	173.153	173.182	25 pounds	100 pounds	1,2	1,2	
A	Barium oxide	ORM-B	None	173.505	173.510 173.800	25 pounds	100 pounds			
	Barium perchlorate	Oxidizer	Oxidizer	173.153	173.154	25 pounds	100 pounds	1,2	1,2	Stow away from powdered metals
	Barium permanganate	Oxidizer	Oxidizer	173.153	173.154	25 pounds	100 pounds	1,2	1,2	Separate from ammonium compounds and hydrogen peroxide
	Barium peroxide (*binoxide, dioxide*)	Oxidizer	Oxidizer	173.153	173.156	25 pounds	100 pounds	1,2	1,2	Keep dry
	Barrel, empty. *See* Drum, empty									
	Battery charger with electrolyte (acid or alkaline battery fluid)	Corrosive material	Corrosive	None	173.259	Forbidden	5 pints	1,2	1,2	
	Battery, dry. Not subject to Parts 170-189 of this subchapter									
	Battery, electric storage, wet	Corrosive material	Corrosive	173.260		Forbidden	No limit	1,2	1,2	

(1)	(2)	(3)	(4)	(5) Packaging		(6) Maximum net quantity in one package		(7) Water shipments		
*/W/A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Battery, electric storage, wet, with automobile, auto parts, engine (*or other specifically named mechanical apparatus*)	Corrosive material	Corrosive	173.250	173.260	No limit	No limit	1,2	1,2	Keep dry
	Battery, electric storage, wet with containers of corrosive battery fluid	Corrosive material	Corrosive	None	173.258	Forbidden	2 gallons	1,2	1,2	
	Battery fluid. See Electrolyte (acid) *or* Alkaline battery fluid									
W	Battery parts (*plates, grids, etc., unwashed, exhausted*)	ORM-C	None	173.505	173.915			1,2	4	
	Benzaldehyde	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
	Benzene (*benzol*)	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Benzene phosphorus dichloride	Corrosive material	Corrosive	None	173.250a	Forbidden	5 pints	1	5	
	Benzene phosphorus thiodichloride	Corrosive material	Corrosive	None	173.250a	Forbidden	5 pints	1	5	
*	Benzine	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Benzoyl chloride	Corrosive material	Corrosive	173.244	173.247	1 quart	1 quart	1	1	Keep dry. Glass carboys not permitted on passenger vessels
	Benzoyl peroxide	Organic peroxide	Organic peroxide	None	173.157 173.158	Forbidden	25 pounds	1,2	1	
	Benzyl bromide (*bromotoluene, alpha*)	Corrosive material	Corrosive	None	173.281	Forbidden	5 pints	1	5	Keep dry
	Benzyl chloride	Corrosive material	Corrosive	173.244	173.295	Forbidden	1 quart	1	4	Keep dry
	Benzyl chloroformate (*or Benzyl chlorocarbonate*)	Corrosive material	Corrosive	None	173.288	Forbidden	5 pints	1	5	Keep dry
*	Beryllium compound, n.o.s.	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
	Black powder	Class A explosive	Explosive A	None	173.60	Forbidden	Forbidden	6	5	
	Black powder igniter with empty cartridge bag	Class C explosive	Explosive C	None	173.106	50 pounds	150 pounds	1,3	1,3	
	Blasting caps—(*1,000 or less*) (*Show actual number*)	Class C explosive	Explosive C	None	173.103	Forbidden	Forbidden	1,2	5	Portable magazine or metal locker. Do not stow blasting caps with any high explosive. Do not handle blasting caps at the same time high explosives are being loaded
	Blasting caps—(*more than 1,000*) (*Show actual number*)	Class A explosive	Explosive A	None	173.66	Forbidden	Forbidden	6	5	Do not stow blasting caps with any high explosive. Do not handle blasting caps at the same time high explosives are being loaded
	Blasting caps—electric (*1,000 or less*) (*Show actual number*)	Class C explosive	Explosive C	None	173.103	Forbidden	Forbidden	1,2	5	Portable magazine or metal locker. Do not stow blasting caps with any high explosive. Do not handle blasting caps at the same time high explosives are being loaded
	Blasting caps—electric (*more than 1,000*) (*Show actual number*)	Class A explosive	Explosive A	None	173.66	Forbidden	Forbidden	6	5	Magazine. Do not stow blasting caps with any high explosives. Do not handle blasting caps at the same time high explosives are being loaded
	Blasting caps with metal clad mild detonating fuse—(*1,000 or less*) (*Show actual number*)	Class C explosive	Explosive C	None	173.103	Forbidden	Forbidden	1,2	5	Portable magazine or metal locker. Do not stow blasting caps with any high explosive. Do not handle blasting caps at the same time high explosives are being loaded
	Blasting caps with metal clad mild detonating fuse—(*more than 1,000*) (*Show actual number*)	Class A explosive	Explosive A	None	173.66 173.67	Forbidden	Forbidden	6	5	Do not stow blasting caps with any high explosive. Do not handle blasting caps at the same time high explosives are being loaded
	Blasting caps with safety fuse—(*1,000 or less*) (*Show actual number*)	Class C explosive	Explosive C	None	173.103	Forbidden	Forbidden	1,2	5	Portable magazine or metal locker. Do not stow blasting caps with any high explosive. Do not handle blasting caps at the same time high explosives are being loaded
	Blasting caps with safety fuse—(*more than 1,000*) (*Show actual number*)	Class A explosive	Explosive A	None	173.66 173.67	Forbidden	Forbidden	6	5	Do not stow blasting caps with any high explosive. Do not handle blasting caps at the same time high explosives are being loaded
	Blasting gelatin. See High explosive									
	Blasting powder. See Black powder									
W	Bleaching powder, *containing 39% or less available chlorine*	ORM-C	None	173.505	173.920			1,2	1,2	Keep dry. Stow separate from flammable liquids and acids. (Stow away from oils, grease, and similar organic materials)
	Bleaching powder, *over 39% available chlorine*	Oxidizer	Oxidizer	173.153	173.217	50 pounds	100 pounds	1,2	1,2	Keep cool and dry
*	Boiler compound, liquid	Corrosive material	Corrosive	173.244	173.249	1 quart	10 gallons	1,2	1,2	
	Bomb, explosive. See Explosive bomb									

§ 172.101 Hazardous Materials Table—(Continued)

(1)	(2)	(3)	(4)	(5)		(6)		(7)		
				Packaging		Maximum net quantity in one package		Water shipments		
•/ W/ A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Bomb, explosive with gas, smoke, or incendiary material. See Explosive bomb									
	Bomb, fireworks. See Fireworks, special									
	Bomb, gas, smoke, or incendiary, non-explosive. See Chemical ammunition									
	Bomb, incendiary, or smoke without bursting charge. See Fireworks, special									
	Bomb, practice, with electric primer or electric squib (non-explosive)			173.55						
	Bomb, sand-loaded or empty (non-explosive)			173.55						
A	Bone oil	ORM-A	None	173.505	173.510	No limit	No limit			
	Booster, explosive	Class A explosive	Explosive A	None	173.69	Forbidden	Forbidden	6	5	
•	Bordeaux arsenite, liquid	Poison B	Poison	173.345	173.346	1 quart	55 gallons	1,2	1,2	
•	Bordeaux arsenite, solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
	Boron tribromide	Corrosive material	Corrosive	None	173.251	Forbidden	1 quart	1	5	
	Boron trichloride	Corrosive material	Corrosive	None	173.251	Forbidden	1 quart	1,2	5	Stow in well ventilated space. Shade from radiant heat. Segregation same as for nonflammable gases
	Boron trifluoride	Nonflammable gas	Nonflammable gas and Poison	None	173.302	Forbidden	Forbidden	1	5	Stow away from living quarters and foodstuffs
	Boron trifluoride-acetic acid complex	Corrosive material	Corrosive	173.244	173.247	1 quart	1 gallon	1,2	1,2	
	Bottles, having previously contained a hazardous material and not cleaned, See 173.29									
W•	Box toe board (*nitrocellulose base*)	ORM-C	None	173.505	173.925			1,3	1,3	Provide cool stowage in a compartment having a temperature not exceeding 130 DEG F., well away from any sources of heat, and in position to protect or move, even to jettison in event of fire. Separate from explosives, flammable liquids or gases, oxidizing materials, organic peroxides, or corrosive liquids.
•	Box toe gum	Combustible liquid	None	173.118a				1,2	1,2	
•	Box toe gum	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Bromine	Corrosive material	Corrosive	None	173.252	Forbidden	1 quart	1	5	Keep cool
	Bromine pentafluoride	Oxidizer	Oxidizer	None	173.246	Forbidden	100 pounds	1	5	Shade from radiant heat. Segregation same as for corrosives
	Bromine trifluoride	Oxidizer	Oxidizer and Poison	None	173.246	Forbidden	100 pounds	1	5	Shade from radiant heat. Segregation same as for corrosives
	Bromoacetic acid, solid	Corrosive material	Corrosive	173.244	173.245b	25 pounds	100 pounds	1,2	1,2	Keep dry
•	Bromoacetic acid solution	Corrosive material	Corrosive	173.244	173.245	1 quart	1 quart	1,2	1,2	Glass carboys in hampers not permitted under deck
	Bromoacetone, liquid	Poison A	Poison gas	None	173.329	Forbidden	Forbidden	1	5	Segregation same as for flammable liquids
	Bromobenzene	Combustible liquid	None	173.118a				1,2	1,2	
	Bromotoluene, alpha. *See* Benzyl bromide									
	Brucine, solid (dimethoxy strychnine)	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
W	Burlap bags, cleaned (*vacuum cleaned, wheel cleaned, or otherwise mechanically brushed*). *See* Burlap cloth									
W	Burlap bags, new. *See* Burlap cloth									
AW	Burlap bags, used and unwashed, *or* not cleaned	ORM-C	None	173.930		No limit	No limit	1	1	Keep cool
W	Burlap cloth (*hessian*)	ORM-C	None	173.931				1,2	1,2	Keep dry. Stow away from organic liquids
	Burnt cotton, not repicked	Flammable solid	Flammable solid	None	173.159	Forbidden	Forbidden	1	5	Separate from flammable gases or liquids, oxidizing materials, or organic peroxides
	Burnt fiber	Flammable solid	Flammable solid	None	173.169	Forbidden	Forbidden	1,2	1,2	Separate from flammable gases or liquids, oxidizing materials or organic peroxides
	Burster, explosive	Class A explosive	Explosive A	None	173.69	Forbidden	Forbidden	6	5	
	Butadiene, inhibited	Flammable gas	Flammable gas	173.306	173.304 173.314 173.315	Forbidden	300 pounds	1,2	1	Stow away from living quarters
	Butane *or* Liquefied petroleum gas. *See* Liquefied petroleum gas									

(1)	(2)	(3)	(4)	(5) Packaging		(6) Maximum net quantity in one package		(7) Water shipments		
*/W/A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Butyl acetate	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	n-Butyl acid phosphate. *See* Acid butyl phosphate									
*	Butyl alcohol. *See* Alcohol, n.o.s.									
	Butylamine	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Butyl bromide, *normal*	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Butyl chloride	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Butyl ether	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1,2	
	Butyl formate	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	n-Butyl isocyanate	Flammable liquid	Flammable liquid and Poison	173.118	173.119	1 quart	10 gallons	1,2	1	
	Butyl mercaptan	Flammable liquid	Flammable liquid	None	173.141	Forbidden	10 gallons	1,3	5	
	Butyl phosphoric acid. *See* Acid-butyl phosphate									
	Butyl trichlorosilane	Corrosive material	Corrosive	None	173.280	Forbidden	10 gallons	1	1	Keep dry
	Butyraldehyde	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Butyric acid	Corrosive material	Corrosive	173.244	173.245	1 quart	10 gallons	1,2	1,2	
	Calcium arsenate, solid	Poison B	Poison	173.364	173.367 173.368	50 pounds	200 pounds	1,2	1,2	
	Calcium arsenite, solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
*	Calcium bisulfite solution. *See* *Calcium hydrogen sulfite solution									
	Calcium carbide	Flammable solid	Flammable solid and dangerous when wet	None	173.178	Forbidden	25 pounds	1,2	1,2	Keep dry. Stow away from copper, its alloys, and salts
	Calcium chlorate	Oxidizer	Oxidizer	173.153	173.163	25 pounds	100 pounds	1,2	1,2	Separate from ammonium compounds. Stow away from powdered metals and cyanide
	Calcium chlorite	Oxidizer	Oxidizer	None	173.160	Forbidden	100 pounds	1,2	1,2	Separate from ammonium compounds powdered materials, and cyanides
AW	Calcium cyanamide, not hydrated, containing more than 0.1% calcium carbide	ORM-C	None	None	173.945	25 pounds	200 pounds	1,2	1,2	Segregation same as for flammable solids labeled Dangerous When Wet
*	Calcium cyanide, solid *or* Calcium cyanide mixture, solid	Poison B	Poison	173.370		25 pounds	200 pounds	1,2	1,2	Stow away from corrosive liquids. Keep dry
*	Calcium hydrogen sulfite solution	Corrosive material	Corrosive	173.244	173.245	1 quart	5 gallons	1,2	1,2	
	Calcium hypochlorite mixture, *dry*, (*containing more than 39% available chlorine*)	Oxidizer	Oxidizer	173.153	173.217	50 pounds	100 pounds	1,2	1,2	Keep cool and dry
	Calcium, metal	Flammable solid	Flammable solid and Dangerous when wet	173.153	173.154	25 pounds	100 pounds	1,2	4	Keep cool and dry. Segregation same as for flammable solids labeled Dangerous When Wet
	Calcium, metal, crystalline	Flammable solid	Flammable solid and Dangerous when wet	None	173.231	Forbidden	25 pounds	1,2	5	Keep cool and dry. Segregation same as for flammable solids labeled Dangerous When Wet
*	Calcium nitrate (*See Sec. 173.182 Note*)	Oxidizer	Oxidizer	173.153	173.182	25 pounds	100 pounds	1,2	1,2	
AW	Calcium oxide	ORM-B	None	173.505	173.850	25 pounds	100 pounds	1,2	1,2	Keep dry. Stow away from explosives, acids, combustible materials, and ammonium salts
	Calcium permanganate	Oxidizer	Oxidizer	173.153	173.154	25 pounds	100 pounds	1,2	1,2	Separate from ammonium compounds and hydrogen peroxide
	Calcium peroxide	Oxidizer	Oxidizer	173.153	173.156	25 pounds	100 pounds	1,2	1,2	Keep dry
	Calcium phosphide	Flammable solid	Flammable solid and Dangerous when wet	None	173.161	Forbidden	25 pounds	1	5	Keep cool and dry. Segregation same as for flammable solids labeled Dangerous When Wet
	Calcium resinate	Flammable solid	Flammable solid	None	173.166	Forbidden	125 pounds	1	5	
	Calcium resinate, fused	Flammable solid	Flammable solid	None	173.166	Forbidden	125 pounds	1	5	
AW	Camphene	ORM-A	None	173.505	173.610	No limit	No limit	1,3	1,3	Stow away from foodstuffs and living quarters
	Camphor oil	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	

§ 172.101 Hazardous Materials Table—(Continued)

(1)	(2)	(3)	(4)	(5)		(6)		(7)		
				Packaging		Maximum net quantity in one package		Water shipments		
*/ W/ A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Cannon primers	Class C explosive	Explosive C	None	173.107	50 pounds	150 pounds	1,3	5	
	Caprylyl peroxide solution	Organic peroxide	Organic peroxide	173.153	173.221	1 quart	1 quart	1,2	4	Keep cool. Stow separate from combustible materials, explosives, or acids
	Caps, blasting. See Blasting caps									
	Caps, toy. See Toy caps									
A	Carbaryl	ORM-A	None	173.505	173.510	No limit	No limit			
	Carbolic acid, liquid *or* Phenol, liquid *(liquid tar acid containing over 50% benzophenol)*	Poison B	Poison	173.345	173.349	1 quart	55 gallons	1,2	1,2	
	Carbolic acid, *or* Phenol	Poison B	Poison	173.364	173.369	50 pounds	250 pounds	1,2	1,2	
	Carbon bisulfide, *or* Carbon disulfide	Flammable liquid	Flammable liquid	None	173.121	Forbidden	Forbidden	1	5	Keep cool. Not permitted on any vessel transporting explosives
•	Carbon dioxide, liquefied	Nonflammable gas	Nonflammable gas	173.306	173.304 173.314 173.315	150 pounds	300 pounds	1,2	1,2	
•	Carbon dioxide-nitrous oxide mixture	Nonflammable gas	Nonflammable gas	173.306	173.304	150 pounds	300 pounds	1,2	1,2	
•	Carbon dioxide-oxygen mixture	Nonflammable gas	Nonflammable gas	173.306	173.304	150 pounds	300 pounds	1,2	1,2	
AW	Carbon dioxide, solid, *or* Dry ice, *or* Carbonice	ORM-A	None	None	173.615	440 pounds	440 pounds	1	1	Stow away from open ventilators. Stow away from cyanides or cyanide mixtures, liquid or dry
	Carbon monoxide	Flammable gas	Flammable gas	173.306	173.302	Forbidden	150 pounds	1	4	
•	Carbon remover, liquid	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
AW	Carbon tetrachloride	ORM-A	None	173.505	173.620	1 quart	55 gallons	1,2	1,2	Stow away from living quarters
	Carbonyl chloride. See Phosgene									
	Carboys, empty, must be classed for the hazardous material previously contained in carboy. See 173.29									
	Cartridge bags, empty, with black powder igniter	Class C explosive	Explosive C	None	173.106	50 pounds	150 pounds	1,3	1,3	
	Cartridge cases, empty, primed	Class C explosive	Explosive C	None	173.107	50 pounds	150 pounds	1,3	1,3	
	Cartridge, practice ammunition	Class C explosive	Explosive C	None	173.101a	50 pounds	150 pounds	1,2	1,2	
	Case oil. See Gasoline *or* Naphtha									
	Casinghead gasoline. See Gasoline									
W	Castor beans	ORM-C	None	173.505	173.952			1,2	1,2	Stow away from living quarters and foodstuffs. Bulk shipments permitted in tight vans or containers only on cargo vessels (Castor beans only)
W	Castor pomace. *See* Castor beans									
	Caustic potash, dry, solid, flake, bead, *or* granular. *See* Potassium hydroxide, dry, etc.									
•	Caustic potash, liquid *or* solution. *See* Potassium hydroxide solution									
	Caustic soda, dry, solid, flake, bead, *or* granular. *See* Sodium hydroxide, dry, etc.									
•	Caustic soda, liquid *or* solution. *See* Sodium hydroxide solution									
W	*Cellosolve. See* Ethylene glycol monoethyl ether									
W	*Cellosolve acetate. See* Ethylene glycol monoethyl ether acetate									
•	Cement, adhesive, n.o.s. *See* Cement, liquid, n.o.s.									
•	Cement, container, linoleum, tile, *or* wallboard, liquid	Flammable liquid	Flammable liquid	173.118	173.132	1 quart	15 gallons	1,2	1	
•	Cement, leather	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
•	Cement, liquid, n.o.s.	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
•	Cement, liquid, n.o.s.	Flammable liquid	Flammable liquid	173.118	173.132	1 quart	10 gallons	1,2	1	
•	Cement, pyroxylin	Flammable liquid	Flammable liquid	173.118	173.132	1 quart	15 gallons	1,2	1	
•	Cement, roofing, liquid	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
•	Cement, rubber	Flammable liquid	Flammable liquid	173.118	173.132	1 quart	15 gallons	1,2	1	
	Cesium metal	Flammable solid	Flammable solid and dangerous when wet	None	173.206	Forbidden	25 pounds	1,2	5	Segregation same as for flammable solids labeled Dangerous When Wet

§ 172.101 Hazardous Materials Table—(Continued)

(1)	(2)	(3)	(4)	(5)		(6)		(7)		
				Packaging		Maximum net quantity in one package		Water shipments		
*/W/A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
*	Charcoal, activated	Flammable solid	Flammable solid	173.162	173.162	25 pounds	200 pounds	1,3	1,3	
	Charcoal briquettes *or* briquets	Flammable solid	Flammable solid	173.162	173.162	50 pounds	50 pounds	1,2	1,2	
	Charcoal screenings, made from "pinon" wood	Flammable solid	Flammable solid	173.162	173.162	25 pounds	200 pounds	1,2	1,2	
	Charcoal screenings, wet	Forbidden								
	Charcoal, shell	Flammable solid	Flammable solid	173.162	173.162	25 pounds	200 pounds	1,2	1,2	
	Charcoal, wet	Forbidden								
	Charcoal, wood, ground, crushed, granulated, *or* pulverized	Flammable solid	Flammable solid	173.162	173.162	25 pounds	200 pounds	1,2	1,2	
	Charcoal, wood, lump	Flammable solid	Flammable solid	173.162	173.162	50 pounds	50 pounds	1,2	1,2	
	Charcoal wood screenings, other than "pinon" wood screenings	Flammable solid	Flammable solid	None	173.162	Forbidden	Forbidden	1	1	
	Charged oil well jet perforating gun (*total explosive contents in guns 20 pounds or more per motor vehicle*)	Class A explosive	Explosive A	None	173.53 173.80	Forbidden	Forbidden			Forbidden
	Charged oil well jet perforating gun (*total explosive contents in guns not exceeding 20 pounds per motor vehicle*)	Class C explosive	Explosive C	None	173.53 173.110	Forbidden	Forbidden			Forbidden
	Chemical ammunition explosive. See Ammunition, chemical, explosive									
	Chemical ammunition, nonexplosvie (*containing a Poison B material*)	Poison B	Poison	173.345	173.350	Forbidden	55 gallons			*See* correct shipping name of applicable Poison B material for stowage, special handling, and special segregation requirements
	Chemical ammunition, nonexplosive (*containing an irritating material*)	Irritating material	Irritant	None	173.83	Forbidden	20 pounds			*See* correct shipping name of applicable Irritant material for stowage, special handling, and special segregation requirements
	Chemical ammunition, nonexplosive (*containing a poison A material*)	Poison A	Poison gas	None	173.330	Forbidden	Forbidden			*See* correct shipping name of applicable Poison A material for stowage, special handling, and special segregation requirements
*	Chemical kit	Corrosive material	Corrosive	173.286		1 quart	1 quart	1,3	1,3	
*	Chlorate and borate mixture (*containing more than 28% chlorate*)	Oxidizer	Oxidizer	173.153	173.229	25 pounds	100 pounds	1,2	4	Stow away from ammonium compounds and away from powdered metals
*	Chlorate and magnesium chloride mixture (*containing more than 28% chlorate*)	Oxidizer	Oxidizer	173.153	173.229	25 pounds	100 pounds	1,2	4	Stow away from ammonium compounds, and away from powdered metals
	Chlorate explosive, dry. See High explosive									
	Chlorate, n.o.s.	Oxidizer	Oxidizer	173.153	173.163	25 pounds	100 pounds	1,2	4	Stow away from ammonium compounds and away from powdered metals
*	Chlorate, n.o.s., wet	Oxidizer	Oxidizer	173.153	173.163	25 pounds	200 pounds	1,2	4	Stow away from ammonium compounds and away from powdered metals
	Chlorate of potash. *See* Potassium chlorate									
	Chlorate of soda. *See* Sodium chlorate									
	Chlorate powder. See High explosive									
*	Chlordane, liquid	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
	Chloric acid. (*see* chlorine dioxide hydrate)									
	Chloride of phosphorus. *See* Phosphorus trichloride									
	Chloride of sulfur. *See* Sulfur chloride									
W	Chlorinated lime (*chloride of lime.*) *See* Bleaching powder									
	Chlorine	Nonflammable gas	Nonflammable gas and Poison	None	173.304 173.314 173.315	Forbidden	Forbidden	1,2	5	Stow in a well-ventilated space. Stow away from organic materials
	Chlorine dioxide hydrate, frozen	Oxidizer	Oxidizer and Poison	None	173.237	Forbidden	Forbidden			Forbidden
	Chlorine trifluoride	Oxidizer	Oxidizer and Poison	None	173.246	Forbidden	100 pounds	1,3	5	Stow in well ventilated area away from organic material
	Chloroacetic acid, solid	Corrosive material	Corrosive	173.244	173.245b	25 pounds	100 pounds	1,2	1,2	Keep dry
*	Chloroacetic acid solution. *See* Monochloroacetic acid solution									
	Chloroacetophenone, gas, liquid, *or* solid (CN)	Irritating material	Irritant	None	173.382	Forbidden	75 pounds	1	5	
	Chloroacetyl chloride	Corrosive material	Corrosive	None	173.253	Forbidden	1 quart	1	5	Keep dry
	Chlorobenzene. *See* Chlorobenzol									
	Chlorobenzol	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1,2	

§ 172.101 Hazardous Materials Table—(Continued)

(1)	(2)	(3)	(4)	(5)		(6)		(7)		
				Packaging		Maximum net quantity in one package		Water shipments		
*/W/A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	p-Chlorobenzoyl peroxide	Organic peroxide	Organic peroxide	None	173.157 173.158	Forbidden	25 pounds	1	1	
	Chlorodinitrobenzene. See Dinitrochlorobenzene									
	Chlorodinitrobenzol. See Dinitrochlorobenzol, solid									
AW	Chloroform	ORM-A	None	173.505	173.630	10 gallons	55 gallons	1,2	1,2	Stow away from living quarters and foodstuffs
	4-Chloro-o-toluidine hydrochloride	Poison B	Poison	None	173.362	Forbidden	1 quart	1,2	1,2	
	Chlorophenyltrichlorosilane	Corrosive material	Corrosive	None	173.280	Forbidden	10 gallons	1	1	Keep dry
	Chloropicrin, absorbed	Poison B	Poison	None	173.357	Forbidden	Forbidden	1	5	Keep cool
	Chloropicrin and methyl chloride mixture	Poison A	Flammable gas and Poison gas	None	173.329	Forbidden	Forbidden	1	5	Keep cool
	Chloropicrin and nonflammable, nonliquefied compressed gas mixture	Poison A	Nonflammable gas and Poison gas	None	173.329	Forbidden	Forbidden	1	5	Keep cool
	Chloropicrin, liquid	Poison B	Poison	None	173.357	Forbidden	Forbidden	1	5	Keep cool
	Chloropicrin mixture (*containing no compressed gas or poison A liquid*)	Poison B	Poison	None	173.357	Forbidden	Forbidden	1	5	Keep cool
A	Chloroplatinic acid, solid	ORM-B	None	173.505	173.510 173.800	25 pounds	100 pounds			
	2-Chloropropene	Flammable liquid	Flammable liquid	None	173.119	Forbidden	10 gallons	1,2	5	
	Chlorosulfonic acid	Corrosive material	Corrosive	173.244	173.254	1 quart	1 quart	1	1	Keep dry. Glass carboys not permitted on passenger vessels
	Chlorosulfonic acid-sulfur trioxide mixture	Corrosive material	Corrosive	173.244	173.254	1 quart	1 quart	1	1	Keep dry. Glass carboys not permitted on passenger vessels
	Chromic acid mixture, dry	Oxidizer	Oxidizer	173.153	173.164	25 pounds	100 pounds	1,2	1,2	Stow away from foodstuffs
	Chromic acid, solid	Oxidizer	Oxidizer	173.153	173.164	25 pounds	100 pounds	1,2	1,2	Stow away from foodstuffs. Stow separate from flammable liquids and solids
•	Chromic acid solution	Corrosive material	Corrosive	173.244	173.287	1 quart	1 gallon	1	1	
	Chromic anhydride. *See* Chromic acid, solid									
	Chromic fluoride, solid	Corrosive material	Corrosive	173.244	173.245b	25 pounds	100 pounds	1,2	1,2	
•	Chromic fluoride solution	Corrosive material	Corrosive	173.244	173.245	1 quart	1 gallon	1,2	1,2	
	Chromic trioxide. *See* Chromic acid, solid									
	Chromium oxychloride *or* Chromyl chloride	Corrosive material	Corrosive	None	173.247	Forbidden	1 gallon	1	1	Keep dry. Glass carboys not permitted on passenger vessels
	Cigar and cigarette lighter fluid. See Lighter fluid									
•	Cigarette lighter (*or other similar ignition device*)	Flammable gas	Flammable gas	173.21	173.308	21 ounces	25 pounds	1	1	Not permitted in nonventilated container
•	Cigarette lighter (*or other similar ignition device*)	Flammable liquid	Flammable liquid	173.21	173.118	Forbidden	Forbidden	1	1	Not permitted in nonventilated container
	Cigarette load	Class C explosive	Explosive C	None	173.111	50 pounds	150 pounds	1,2	1,2	
	Cloud gas cylinder. See Chemical ammunition									
	Coal briquettes, hot	Forbidden								
	Coal facings. *See* Coal ground bituminous, *etc.*									
	Coal gas. See Hydrocarbon gas, nonliquefied									
	Coal, ground bituminous, sea coal; coal facings; *etc.*	Flammable solid	Flammable solid	173.165		Forbidden	Forbidden	1	1	Separate from flammable gases or liquids, oxidizing materials, or organic peroxides
	Coal oil (*export shipment only*). *See* Kerosene									
•	Coal tar distillate	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
•	Coal tar distillate	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
•	Coal tar dye, liquid (*not otherwise specifically named in Sec. 172.101*)	Corrosive material	Corrosive	173.244	173.245 173.249a	1 quart	10 gallons	1,2	1,2	
•	Coal tar light oil	Combustible liquid	None	173.118a				1,2	1,2	
•	Coal tar light oil	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
•	Coal tar naphtha	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	

(1)	(2)	(3)	(4)	(5)		(6)		(7)		
				Packaging		Maximum net quantity in one package		Water shipments		
*/ W/ A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
*	Coal tar naphtha	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
*	Coal tar oil	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
*	Coal tar oil	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1,2	
*	Coating solution	Flammable liquid	Flammable liquid	173.118	173.132	1 quart	15 gallons	1,2	1	
	Cobalt resinate, precipitated	Flammable solid	Flammable solid	None	173.166	Forbidden	125 pounds	1,2	1,2	
	Cocculus, solid (*fishberry*)	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
W*	Coconut meal pellets *containing at least 6% and not more than 13% moisture and not more than 10% residual fat content*	ORM-C	None	173.505	173.955			1,2	4	Keep dry
	Coir. *See* Fibers									
	Coke, hot	Forbidden								
	Collodion	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Collodion cotton, wet. See Nitrocellulose, wet									
	Cologne spirits (*alcohol*)	Flammable liquid	Flammable liquid	173.118	173.125	1 quart	10 gallons	1,2	1	
	Columbian spirits (*wood alcohol*)	Flammable liquid	Flammable liquid	173.118	173.125	1 quart	10 gallons	1,2	1	
	Combination fuze	Class C explosive	Explosive C	None	173.105	50 pounds	150 pounds	1,3	1,3	
	Combination primer	Class C explosive	Explosive C	None	173.107	50 pounds	150 pounds	1,3	5	
	Combustible liquid, n.o.s.	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
	Commercial shaped charge. See High explosive									
	Common fireworks. *See* Fireworks, common									
*	Compound, cleaning, liquid	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
*	Compound, cleaning, liquid	Corrosive material	Corrosive	173.244	173.245	1 quart	1 quart	1,2	1,2	
*	Compound, cleaning, liquid	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
*	Compound, cleaning, liquid (containing hydrochloric (muriatic) acid)	Corrosive material	Corrosive	173.244	173.263	1 quart	1 gallon	1	1	
*	Compound, cleaning, liquid (containing hydrofluoric acid)	Corrosive material	Corrosive	173.244	173.256	1 quart	1 gallon	1	4	
*	Compound, cleaning liquid (*containing phosphoric acid, acetic acid, sodium or potassium hydroxide*)	Corrosive material	Corrosive	173.244	173.245 173.249a	1 quart	1 quart	1,2	1,2	
*	Compound, enamel	Flammable liquid	Flammable liquid	173.118	173.128	1 quart	55 gallons	1,2	1	
*	Compound, lacquer, paint, *or* varnish removing, liquid	Corrosive material	Corrosive	173.244	173.245	1 quart	1 gallon	1,2	1,2	
*	Compound, lacquer, paint, *or* varnish, removing, reducing, *or* thinning, liquid	Combustible liquid	None	173.118a				1,2	1,2	
*	Compound, lacquer, paint, *or* varnish, removing, reducing, *or* thinning, liquid	Flammable liquid	Flammable liquid	173.118	173.128	1 quart	55 gallons	1,2	1	
*	Compound, polishing, liquid	Flammable liquid	Flammable liquid	173.118	173.129	1 quart	55 gallons	1,2	1	
*	Compound, rust preventing *or* Compound, rust removing	Corrosive material	Corrosive	173.244	173.245	1 quart	1 gallon	1,2	1,2	
*	Compound, tree *or* weed killing, liquid	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
*	Compound, tree *or* weed killing, liquid	Corrosive material	Corrosive	173.244	173.245	1 quart	1 quart	1,2	1,2	
*	Compound, tree *or* weed killing, liquid	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
*	Compound, tree *or* weed killing, liquid	Poison B	Poison	173.345	173.346	1 quart	55 gallons	1,2	1,2	
*	Compound, tree *or* weed killing, solid	Oxidizer	Oxidizer	173.153	173.154 173.229	25 pounds	100 pounds	1,2	1,2	
*	Compound, vulcanizing, liquid	Corrosive material	Corrosive	173.244	173.245	1 quart	1 quart	1,2	1,2	
*	Compound, vulcanizing, liquid	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
*	Compound, water treatment, liquid. *See* Water treatment, liquid									
	Compressed gas, n.o.s.	Flammable gas	Flammable gas	173.306	173.302 173.304 173.305	Forbidden	300 pounds	1	4	

§ 172.101 **Hazardous Materials Table—(Continued)**

(1)	(2)	(3)	(4)	(5)		(6)		(7)		
				Packaging		Maximum net quantity in one package		Water shipments		
*/ W/ A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Compressed gas, n.o.s.	Nonflammable gas	Nonflammable gas	173.306	173.302 173.304 173.305	150 pounds	300 pounds	1,2	1,2	
	Consumer commodity	ORM-D	None	None	173.510 173.1200	65 pounds gross	65 pounds gross			Not subject to requirements of Part 176
	Container, reused or empty, must be classed for the hazardous material previously contained. See 173.28, 173.29									
	Copper acetoarsenite, solid (*emerald green, imperial green, King's green, moss green, meadow green, mitis green, parrot green, Vienna green*)	Poison B	Poison	173.364	173.367	50 pounds	200 pounds	1,2	1,2	
	Copper arsenite, solid (*Scheeles green, cupric green, copper orthoarsenite, Swedish green*)	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
A	Copper chloride	ORM-B	None	173.505	173.510 173.800	25 pounds	100 pounds			
	Copper cyanide	Poison B	Poison	173.370		25 pounds	200 pounds	1,2	1,2	Stow away from acids
W	Copra	ORM-C	None	173.505	173.960			1,2	1,2	Segregation same as for flammable solids. Separate from flammable gases or liquids, oxidizing materials, or organic peroxides
	Copra pellets. See Coconut meal pellets									
	Cordeau detonant fuse	Class C explosive	Explosive C	None	173.104	50 pounds	300 pounds	1,2	1,2	
	Corrosive battery fluid. *See* Electrolyte (acid), *or* Alkaline Corrosive battery fluid									
	Corrosive liquid, n.o.s.	Corrosive material	Corrosive	173.244	173.245 173.245a	1 quart	1 quart	1	4	
	Corrosive solid, n.o.s.	Corrosive material	Corrosive	173.244	173.245b	25 pounds	100 pounds	1	4	
*	Cosmetics, n.o.s.	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
*	Cosmetics, n.o.s.	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
*	Cosmetics, n.o.s.	Flammable solid	Flammable solid	173.153	173.154	25 pounds	100 pounds	1,2	1,2	
*	Cosmetics, n.o.s.	Oxidizer	Oxidizer	173.153	173.154	25 pounds	100 pounds.	1,2	1,2	
*	Cosmetics, n.o.s., liquid	Corrosive material	Corrosive	173.244	173.245	1 quart	1 quart	1,2	1,2	
*	Cosmetics, n.o.s., solid	Corrosive material	Corrosive	173.244	173.245b	25 pounds	100 pounds	1,2	1,2	Keep dry
W	Cotton	ORM-C	None	173.505	173.965			1,2	1,2	Segregation same as for flammable solids. *See* 176.900 to 176.904
W	Cotton batting	ORM-C	None	173.505	173.970			1,2	1,2	Keep dry. Stow away from vegetable or animal oils. *See* 176.900 to 176.904
W	Cotton batting dross. *See* Cotton batting									
	Cotton, burnt. See Burnt cotton									
W	Cotton seed hull fiber *or* shavings, pulp, *or* cut linters. *See* Cotton batting									
	Cotton sweepings. *See* Cotton waste									
W	Cotton wadding. *See* Cotton batting									
W	Cotton waste	ORM-C	None	173.505	173.975			1,2	1,2	Keep dry. Stow away from vegetable or animal oils. *See* 176.900 to 176.904
	Cotton waste, oily (*with more than 5% of animal or vegetable oil*)	Flammable solid	Flammable solid	None	173.167	Forbidden	Forbidden	1,2	1,2	Separate from flammable gases or liquids, oxidizing materials, or organic peroxides
	Creosote, coal tar	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
	Creosote oil. See Creosote, coal tar									
	Crotonaldehyde	Flammable liquid	Flammable liquid and Poison	173.118	173.119	1 quart	1 gallon	1,2	1	
	Crotonic acid	Corrosive material	Corrosive	173.244	173.245	1 quart	10 gallons	1,2	1,2	
	Crotonylene	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,3	4	
	Crude nitrogen fertilizer solution (more than 25.3 p.s.i.g.)	Nonflammable gas	Nonflammable gas	173.306	173.304 173.314	Forbidden	300 pounds	1,3	1,3	
*	Crude oil, petroleum	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
*	Crude oil, petroleum	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Cumene hydroperoxide	Organic peroxide	Organic peroxide	173.153	173.224	1 quart	1 quart	1,2	4	
	Cupric cyanide. See Copper cyanide									

§ 172.101 Hazardous Materials Table—(Continued)

(1)	(2)	(3)	(4)	(5)		(6)		(7)		
				Packaging		Maximum net quantity in one package		Water shipments		
*/W/A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific require-ments	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Pas-senger vessel	(c) Other requirements
*	Cupriethylene-diamine solution	Corrosive material	Corrosive	173.244	173.249	1 quart	1 gallon	1,2	1,2	
*	Cyanide *or* cyanide mixture, dry	Poison B	Poison	173.364	173.370	25 pounds	200 pounds	1,2	1,2	Keep dry. Stow away from acids
	Cyanogen bromide	Poison B	Poison	None	173.379	Forbid-den	25 pounds	1	5	Shade from radiant heat. Segregation same as for corrosive materials
	Cyanogen chloride *containing less than 0.9% water*	Poison A	Nonflamma-ble gas and Poison Gas	None	173.328	Forbid-den	Forbid-den	1	5	Shade from radiant heat
	Cyanogen gas	Poison A	Flammable gas and Poison Gas	None	173.328	Forbid-den	Forbid-den	1	5	
	Cyclohexane	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,3	4	
	Cyclohexanone peroxide, *50 to 85% peroxide*	Organic peroxide	Organic peroxide	173.157	173.158	Forbid-den	25 pounds	1	1	
	Cyclohexanone peroxide, *not over 50% peroxide*	Organic peroxide	Organic peroxide	173.153	173.154	2 pounds	25 pounds	1,2	1,2	
	Cyclohexanone peroxide and bis (1-hydroxy cyclohexyl) peroxide mixture. *See appropriate cyclohexanone peroxide entry immediately preceding*									
	Cyclohexenyl trichlorosilane	Corrosive material	Corrosive	None	173.280	Forbid-den	10 gallons	1	1	Keep dry
	Cyclohexyl trichlorosilane	Corrosive material	Corrosive	None	173.280	Forbid-den	10 gallons	1	1	Keep dry
	Cyclopentane	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,3	4	
	Cyclopentane, methyl	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,3	4	
	Cyclopropane	Flammable gas	Flammable gas	173.306	173.304	Forbid-den	300 pounds	1,2	1	
	Cyclotrimethylenetrinitramine, desensitized. See High explosive									
	Cyclotrimethylenetrinitramine, wet with not less than 10% water. See High explosive									
	Cylinder, empty, including ton tanks, must be classed for the hazardous material previously contained in cylinder. See 173.29									
	2,4-D. *See* 2,4-Dichlorophenoxyacetic acid									
A	DDT *or* Dichlorodiphenyltrichloroethane	ORM-A	None	173.505	173.510	No limit	No limit			
	Dead oil. See Creosote, coal tar									
	Decaborane	Flammable solid	Flammable solid and Poison	None	173.236	Forbid-den	25 pounds	1,2	1,2	
	Decahydronaphthalene	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
	Decalin. See Decahydronaphthalene									
	Delay electric igniter	Class C explosive	Explosive C	None	173.106	50 pounds	150 pounds	1,3	1,3	
	Denatured alcohol. *See* Alcohol, n.o.s.									
	Depth bomb. See Explosive bomb									
	Detonating fuze, Class A explosive, *with or without radioactive components*	Class A explosive	Explosive A	None	173.69	Forbid-den	Forbid-den	6	5	
	Detonating fuze, Class C explosive	Class C explosive	Explosive C	None	173.113	50 pounds	150 pounds	1,3	1,3	
	Detonating primer	Class A explosive	Explosive A	None	173.68	Forbid-den	Forbid-den	6	5	
*	Diacetone alcohol	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Diacetyl	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
A	Diazinon	ORM-A	None	173.505	173.510	No limit	No limit			
	Diazodinitrophenol. *See* Initiating explosive									
A	Dibromodifluoromethane	ORM-A	None	173.505	173.510 173.605	10 gallons	55 gallons			
W	1,2-Dibromoethane. *See* Ethylene dibromide									
	Dichloroacetic acid	Corrosive material	Corrosive	173.244	173.245	1 quart	1 quart	1,2	1,2	Glass carboy in hampers not permitted under deck
	Dichloroacetyl chloride	Corrosive material	Corrosive	173.244	173.247	1 quart	1 gallon	1	4	Keep dry
A	Dichlorobenzene, ortho, liquid	ORM-A	None	173.505	173.510	No limit	No limit			
A	Dichlorobenzene, para, solid	ORM-A	None	173.505	173.510	No limit	No limit			

§ 172.101 Hazardous Materials Table—(Continued)

(1)	(2)	(3)	(4)	(5)		(6)		(7)		
				Packaging		Maximum net quantity in one package		Water shipments		
*/W/A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Dichlorobutene	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1,2	
A	Dichlorodifluoroethylene	ORM-A	None	173.505	173.510 173.605	10 gallons	55 gallons			
	Dichlorodifluoromethane	Nonflammable gas	Nonflammable gas	173.306	173.304 173.314 173.315	150 pounds	300 pounds	1,2	1,2	
	Dichlorodifluoromethane and difluoroethane mixture (*constant boiling mixture*)	Nonflammable gas	Nonflammable gas	173.306	173.304 173.314 173.315	150 pounds	300 pounds	1,2	1,2	
	Dichlorodifluoromethane-dichlorotetrafluoroethane mixture	Nonflammable gas	Nonflammable gas	173.306	173.304 173.314 173.315	150 pounds	300 pounds	1,2	1,2	
	Dichlorodifluoromethane-monochlorodifluoromethane mixture	Nonflammable gas	Nonflammable gas	173.306	173.304 173.314 173.315	150 pounds	300 pounds	1,2	1,2	
*	Dichlorodifluoromethane-trichloromonofluoromethane mixture	Nonflammable gas	Nonflammable gas	173.306	173.304 173.314 173.315	150 pounds	300 pounds	1,2	1,2	
	Dichlorodifluoromethane-trichloromonofluoromethane-monochloro difluoromethane mixture	Nonflammable gas	Nonflammable gas	173.306	173.304 173.314 173.315	150 pounds	300 pounds	1,2	1,2	
	Dichlorodifluoromethane-trichlorotrifluoroethane mixture	Nonflammable gas	Nonflammable gas	173.306	173.304 173.314 173.315	150 pounds	300 pounds	1,2	1,2	
	Dichlorodiphenyltrichloroethane. *See* DDT									
	Dichloroethylene	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Dichloroisopropyl ether	Corrosive material	Corrosive	173.244	173.245	1 quart	10 gallons	1,2	1,2	
A	Dichloromethane *or* methylene chloride	ORM-A	None	173.505	173.510 173.605	10 gallons	55 gallons			
*	Dichloropentane	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1,2	
A	2,4-Dichlorophenoxyacetic acid	ORM-A	None	173.505	173.510					
	Dichlorophenyltrichlorosilane	Corrosive material	Corrosive	None	173.280	Forbidden	10 gallons	1	1	Keep dry
	Dichloropropene and propylene dichloride mixture	Corrosive material	Corrosive	173.244	173.245	1 quart	10 gallons	1,2	1,2	
	Dicumyl peroxide *50% solution*	Organic peroxide	Organic peroxide	173.153	173.224	1 quart	1 quart	1,2	4	
	Dicumyl peroxide, dry	Organic peroxide	Organic peroxide	173.153	173.154	2 pounds	25 pounds	1,2	1,2	
A	Dieldrin	ORM-A	None	173.505	173.510	No limit	No limit			
	Diesel Fuel *See* Fuel oil									
	Diethylamine	Flammable liquid	Flammable liquid	173.118	173.119	Forbidden	5 pints	1,3	4	
	Diethyl cellosolve. *See* Ethylene glycol diethyl ether									
	Diethyl dichlorosilane	Flammable liquid	Flammable liquid	None	173.135	Forbidden	10 gallons	1	1	Keep dry. Segregation same as for corrosives
	Diethylene glycol dinitrate *See* 173.51	Forbidden								
	Di-(2-ethylhexyl) phosphoric acid	Corrosive material	Corrosive	173.244	173.245	1 quart	10 gallons	1,2	1,2	
	Diethyl ketone	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	1,1-Difluoro 1-chloroethane. *See* Difluoromonochlorethane									
	Difluoroethane	Flammable gas	Flammable gas	173.306	173.304 173.314 173.315	Forbidden	300 pounds	1,2	1	
	Difluoromonochloroethane (*1,1-difluoro 1-chloroethane*)	Flammable gas	Flammable gas	173.306	173.304 173.314 173.315	Forbidden	300 pounds	1,2	1	
	Difluorophosphoric acid, anhydrous	Corrosive material	Corrosive	None	173.275	Forbidden	1 gallon	1,2	1,2	
	Dihydropyran	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	4	
	Diisobutyl ketone	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
	Diisooctyl acid phosphate	Corrosive material	Corrosive	173.244	173.296	1 quart	1 quart	1,2	1,2	Glass carboys in hampers not permitted under deck
	Diisopropylamine	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Diisopropylbenzene hydroperoxide solution, *not over 60% peroxide*	Organic peroxide	Organic peroxide	173.153	173.224	1 quart	1 quart	1,2	4	
	Diisopropylethanolamine	Corrosive material	Corrosive	173.244	173.245	1 quart	10 gallons	1,2	1,2	
	Diisopropylether	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,3	4	

§ 172.101 Hazardous Materials Table—(Continued)

(1)	(2)	(3)	(4)	(5)		(6)		(7)		
				Packaging		Maximum net quantity in one package		Water shipments		
*/W/A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Dimethylamine, anhydrous	Flammable gas	Flammable gas	173.306	173.304 173.314 173.315	Forbidden	300 pounds	1,2	4	
*	Dimethylamine, aqueous solution	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	2,3-Dimethylbutane	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,3	4	
	Dimethyl carbonate	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	1,4-Dimethylcyclohexane	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Dimethyldichlorosilane	Flammable liquid	Flammable liquid	None	173.135	Forbidden	5 pints	1,2	1	
	Dimethyl ether	Flammable gas	Flammable gas	173.306	173.304 173.314 173.315	Forbidden	300 pounds	1,2	1	
	Dimethylhexane dihydroperoxide, dry	Forbidden								
	Dimethylhexane dihydroperoxide, (with 30% or more water)	Organic peroxide	Organic peroxide	None	173.157	Forbidden	25 pounds	1	1	
	Dimethylhydrazine, unsymmetrical (*UDMH*)	Flammable liquid	Flammable liquid and Poison	None	173.145	Forbidden	5 pints	1,2	1	Keep dry. Separate from corrosive and oxidizing materials, and organic peroxides
	Dimethyl sulfate	Corrosive material	Corrosive	None	173.255	Forbidden	1 quart	1	5	Keep cool
	Dimethyl sulfide	Flammable liquid	Flammable liquid	None	173.119	Forbidden	10 gallons	1,2	5	
	Dinitrobenzene, solid, *or* dinitrobenzol, solid	Poison B	Poison	173.364	173.371	50 pounds	200 pounds	1,2	1,2	
*	Dinitrobenzene solution	Poison B	Poison	173.345	173.346	1 quart	55 gallons	1,2	1,2	
	Dinitrochlorobenzol, solid *or* Dinitro chlorobenzene	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
A	Dinitrocyclohexylphenol	ORM-A	None	173.505	173.510	No limit	No limit			
*	Dinitrophenol solution	Poison B	Poison	173.345	173.362a	1 quart	65 pounds	1,2	1,2	Stow away from heavy metals and their compounds. If flash point is 141 DEG F or less segregation same as for flammable liquids
	Dioxane	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Dioxolane	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Diphenylaminechloroarsine (*DM*)	Irritating material	Irritant	None	173.382	Forbidden	75 pounds	1	5	
	Diphenyl dichlorosilane	Corrosive material	Corrosive	None	173.280	Forbidden	10 gallons	1	1	Keep dry
	Diphenyl methyl bromide, solid	Corrosive material	Corrosive	173.244	173.245b	25 pounds	100 pounds	1	4	
*	Diphenyl methyl bromide solution	Corrosive material	Corrosive	173.244	173.247	1 quart	1 gallon	1,2	1,2	
	Diphosgene. See Phosgene									
*	Disinfectant, liquid, n.o.s.	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
*	Disinfectant, liquid	Corrosive material	Corrosive	173.244	173.245	1 quart	10 gallons	1	4	
*	Disinfectant, liquid	Poison B	Poison	173.345	173.346	1 quart	55 gallons	1,2	1	
*	Disinfectant, solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1	
	Dispersant Gas *or* Refrigerant Gas *See* 173.314 NOTE 13 and 173.315 NOTE 9									
*	Distillate (*petroleum or coal tar*)	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Divinyl ether	Flammable liquid	Flammable liquid	None	173.119	Forbidden	10 gallons	1,3	5	
	Dodecyl trichlorosilane	Corrosive material	Corrosive	None	173.280	Forbidden	10 gallons	1	1	Keep dry
*	Dressing, leather	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
*	Dressing, leather	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Drier. See Paint drier, liquid									
	Drill cartridge			173.55						
*	Drugs, n.o.s.	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
*	Drugs, n.o.s.	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
*	Drugs, n.o.s.	Flammable solid	Flammable solid	173.153	173.154	25 pounds	100 pounds	1,2	1,2	
*	Drugs, n.o.s.	Oxidizer	Oxidizer	173.153	173.154	25 pounds	100 pounds	1,2	1,2	
*	Drugs, n.o.s., liquid	Corrosive material	Corrosive	173.244	173.245	1 quart	1 quart	1,2	1,2	

§ 172.101 Hazardous Materials Table—(Continued)

(1)	(2)	(3)	(4)	(5)		(6)		(7)		
				Packaging		Maximum net quantity in one package		Water shipments		
*/ W/ A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
*	Drugs, n.o.s., liquid	Poison B	Poison	173.345	173.346	1 quart	55 gallons	1,3	1	
*	Drugs, n.o.s., solid	Corrosive material	Corrosive	173.244	173.245b	25 pounds	100 pounds	1,2	1,2	Keep dry
*	Drugs, n.o.s., solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,3	1,3	
	Drums, empty, must be classed for the hazardous material previously contained in drum. See 173.29									
	Dry ice. *See* Carbon dioxide, solid									
	Dusts, by-product, poisonous. *See* Arsenical dust									
*	Dye intermediate, liquid	Corrosive material	Corrosive	173.244	173.245 173.249a	1 quart	10 gallons	1,2	1,2	Stow away from foodstuffs and living quarters
	Dynamite. See High explosive									
	Electric blasting caps. *See* Blasting caps, electric									
	Electric squib	Class C explosive	Explosive C	None	173.106	50 pounds	150 pounds	1,3	1,3	
	Electric storage battery, wet. *See* Battery, electric storage, wet									
	Electrolyte (*acid*), battery fluid (*not over 47% acid*)	Corrosive material	Corrosive	173.244	173.257	1 quart	5 gallons	1,2	1,2	Glass carboys in hampers not permitted under deck
	Electrolyte (*acid*), *or* alkaline (*corrosive*) battery fluid packed with battery charger, radio current supply device, *or* electronic equipment and actuating device	Corrosive material	Corrosive	None	173.259	Forbidden	5 pints	1,2	1,2	
	Electrolyte (*acid*), *or* alkaline (*corrosive*) battery fluid packed with dry-storage battery	Corrosive material	Corrosive	None	173.258	Forbidden	5 pints	1,2	1,2	
	Empty cartridge bag with black powder igniter	Class C explosive	Explosive C	None	173.106	50 pounds	150 pounds	1,3	1,3	
	Empty cartridge case, primed	Class C explosive	Explosive C	None	173.107	50 pounds	150 pounds	1,3	1,3	
*	Enamel. *See* *Paint, enamel, lacquer, etc.									
	Engine, internal combustion			173.120				1,2	1,2	Not permitted in unventilated containers
	Engine starting fluid	Flammable gas	Flammable gas	None	173.304	Forbidden	60 pounds	1,2	5	
*	Eradicator, paint *or* grease, liquid	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Etching acid, liquid, n.o.s.	Corrosive material	Corrosive	None	173.299	Forbidden	10 pounds	1	5	
	Ethane	Flammable gas	Flammable gas	173.306	173.304	Forbidden	300 pounds	1,2	4	
	Ether (*ethyl*)	Flammable liquid	Flammable liquid	None	173.119	Forbidden	10 gallons	1,3	5	
	Ether, Ethyl. *See* Ether									
	Ethyl acetate	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Ethyl acrylate, inhibited	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Ethyl alcohol. *See* Alcohol, n.o.s.									
	Ethyl aldehyde. *See* Acetaldehyde									
	Ethyl benzene	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Ethyl borate	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	Keep dry
	Ethyl butyl acetate	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
	Ethyl butyl ether	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Ethyl butyraldehyde	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Ethyl butyrate	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1,2	
	Ethyl chloride	Flammable liquid	Flammable liquid	None	173.123	Forbidden	173.123	1,2	1	Segregation same as for flammable gases
	Ethyl chloroacetate	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
	Ethyl chloroformate (*chlorocarbonate*)	Flammable liquid	Flammable liquid and Poison	None	173.288	Forbidden	5 pints	1,2	1	
	Ethyl chlorothioformate	Corrosive material	Corrosive	173.244	173.245 173.245a	1 quart	1 quart	1,2	1	
	Ethyl crotonate	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Ethyl dichlorosilane	Flammable liquid	Flammable liquid	None	173.135	Forbidden	5 pints	1,2	1	

§ 172.101 Hazardous Materials Table—(Continued)

(1)	(2)	(3)	(4)	(5)		(6)		(7)		
				Packaging		Maximum net quantity in one package		Water shipments		
*/ W/ A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Ethylene	Flammable gas	Flammable gas	173.306	173.304	Forbidden	300 pounds	1,2	4	
	Ethylene chlorohydrin	Poison B	Poison	173.345	173.346	1 quart	55 gallons	1,2	1	Segregation same as for flammable liquids
AW	Ethylene dibromide (1,2-dibromethane)	ORM-A	None	173.505	173.620	1 quart	55 gallons	1,2	1,2	Stow away from living quarters
	Ethylene dichloride	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Ethylene glycol diethyl ether (*diethyl "Cellosolve"*)	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
	Ethylene glycol monoethyl ether (*"Cellosolve"*)	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
	Ethylene glycol monoethyl ether acetate (*"Cellosolve acetate"*)	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
	Ethylene glycol monomethyl ether (*methyl "Cellosolve"*)	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
	Ethylene glycol monomethyl ether acetate (*methyl "Cellosolve acetate"*)	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
	Ethylene imine, inhibited	Flammable liquid	Flammable liquid and Poison	None	173.139	Forbidden	5 pints	1,2	1	
	Ethylene oxide	Flammable liquid	Flammable liquid	None	173.124	Forbidden	173.124	1,2	1	Segregation same as for flammable gases
	Ethyl ether. See Ether									
	Ethyl formate	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,3	4	
	Ethylhexaldehyde	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
	Ethyl lactate	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
	Ethyl mercaptan	Flammable liquid	Flammable liquid	None	173.141	Forbidden	10 gallons	1,2	1	
	Ethyl methyl ether	Flammable liquid	Flammable liquid	None	173.119	Forbidden	10 gallons	1,3	1	Segregation same as for flammable gases
	Ethyl methyl ketone	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Ethyl nitrate (*nitric ether*)	Flammable liquid	Flammable liquid	173.118	173.119	Forbidden	Forbidden	1,2	1	
	Ethyl nitrite (*nitrous ether*)	Flammable liquid	Flammable liquid	None	173.119	Forbidden	Forbidden	1,3	5	
	Ethyl phenyl dichlorosilane	Corrosive material	Corrosive	None	173.280	Forbidden	10 gallons	1	5	
	Ethyl phosphonothioic dichloride, anhydrous	Corrosive material	Corrosive	173.244	173.245 173.245a	1 quart	1 quart	1	4	
	Ethyl phosphonous dichloride, anhydrous	Corrosive material	Corrosive	173.244	173.245 173.245a	1 quart	1 quart	1	4	
	Ethyl phosphorodichloridate	Corrosive material	Corrosive	173.244	173.245 173.245a	1 quart	1 quart	1	4	
	Ethyl propionate	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Ethyl silicate (*tetra ethyl ortho silicate*)	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
	Ethyl trichlorosilane	Flammable liquid	Flammable liquid	None	173.135	Forbidden	5 pints	1,2	1	
	Etiologic agent, n.o.s.	Etiologic agent	Etiologic agent	173.386	173.387	173.386	4 liters			Not permitted except under specific conditions approved by the Department
W	Excelsior (shredded wood) *when dry, clear, and free from oil*	ORM-C	None	173.505	173.980			1,3	1,3	Stow away from organic, corrosive, or oxidizing materials
W	Exothermic ferrochrome	ORM-C	None	173.505	173.985			1	1	
W	Exothermic ferromanganese. *See* Exothermic ferrochrome									
W	Exothermic silicon chrome. *See* Exothermic ferrochrome									
	Explosive auto alarm	Class C explosive	Explosive C	None	173.111	50 pounds	150 pounds	1,2	1,2	
	Explosive bomb	Class A explosive	Explosive A	None	173.56	Forbidden	Forbidden	1,2	5	Magazine stowage authorized. No other cargo may be stowed in the same hold with these items
	Explosive cable cutter	Class C explosive	Explosive C	None	173.102	50 pounds	150 pounds	1,3	1,3	
	Explosive mine	Class A explosive	Explosive A	None	173.56	Forbidden	Forbidden	1,2	5	Magazine stowage authorized. No other cargo may be stowed in the same hold with this material
	Explosive, new approval, and evaluation See 173.86									
	Explosive power device, Class B	Class B explosive	Explosive B	None	173.94	Forbidden	150 pounds	1,2	5	
	Explosive power device, Class C	Class C explosive	Explosive C	None	173.102	50 pounds	150 pounds	1,3	1,3	

§ 172.101 Hazardous Materials Table—(Continued)

(1)	(2)	(3)	(4)	(5)		(6)		(7)		
				Packaging		Maximum net quantity in one package		Water shipments		
*/ W/ A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Explosive projectile	Class A explosive	Explosive A	None	173.56	Forbidden	Forbidden	1,2	5	Magazine stowage authorized. No other cargo may be stowed in the same hold with this material
	Explosive release device	Class C explosive	Explosive C	None	173.102	50 pounds	150 pounds	1,3	1,3	
	Explosive rivet	Class C explosive	Explosive C	None	173.100	50 pounds	150 pounds	1,2	1,2	
	Explosive, sample for laboratory examination			173.86		Forbidden	173.86			
	Explosive torpedo	Class A explosive	Explosive A	None	173.56	Forbidden	Forbidden	1,2	5	Magazine stowage authorized. No other cargo may be stowed in the same hold with this material
*	Extract, liquid, flavoring	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Fabric with animal or vegetable oil. See Fibers or fabric containing not more than 5% animal or vegetable fat									
AW	Feed, wet, mixed	ORM-C	None	173.505	173.990	Forbidden	Forbidden	3	3	Stow in cool, dry, well ventilated compartment. Do not stow bags over ten tiers high without flooring off. Do not overstow
W	Felt, waste. *See* Cotton waste									
	Felt, waste, wet. *See* Waste wool, wet									
	Ferric arsenate, solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
	Ferric arsenite, solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
A	Ferric chloride, solid, *anhydrous*	ORM-B	None	173.505	173.510	25 pounds	100 pounds			
*	Ferric chloride solution	Corrosive material	Corrosive	173.244	173.245 173.245a	1 quart	10 quarts	1,2	1,2	
W	Ferrophosphorus	ORM-A	None	173.505	173.635			1,2	1,2	Keep dry. Stow away from living quarters
AW	Ferrosilicon, *containing 30% or more but not more than 70% silicon*	ORM-A	None	173.505	173.510 173.645	Forbidden	25 pounds	1,2	1,2	Keep dry. Stow away from living quarters. Segregation same as for flammable solids labeled Dangerous When Wet
	Ferrous arsenate (*iron arsenate*), solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
	Fertilizer ammoniating solution *containing free ammonia (more than 25.3 p.s.i.g.)*	Nonflammable gas	Nonflammable gas	173.306	173.304 173.314	Forbidden	300 pounds	1,2	4	
	Fertilizer, tankage. *See* Garbage, tankage									
W	Fibers (*jute, hemp, flax, sisal, coir, kapok, and similar vegetable fibers*)	ORM-C	None	173.505	173.965			1,2	1,2	Stow away from animal or vegetable oils. Segregation same as for flammable solids
	Fibers, burnt	Flammable solid	Flammable soid	None	173.169	Forbidden	Forbidden	1,2	1,2	Separate from flammable gases or liquids, oxidizing materials, or organic peroxides
	Fibers *or* fabric, containing not more than 5% animal *or* vegetable oil	Flammable solid	Flammable solid	None	173.170	Forbidden	Forbidden	1,2	1,2	Separate from flammable gases or liquids, oxidizing materials, or organic peroxides
	Film (nitrocellulose)	Flammable solid	Flammable solid	None	173.177	50 pounds	200 pounds	1,3	1,3	Stow away from other flammable cargo or substances
	Film, photographic, (including scrap film), safety, nonflammable, or slow burning. Not subject to requirements of this subchapter									
	Firecracker. See Fireworks, common *or* special									
	Firecracker salute. See Fireworks, common *or* special									
*	Fire extinguisher	Nonflammable gas	Nonflammable gas	173.306		150 pounds	300 pounds	1,2	1,2	
	Fire extinguisher charge containing not more than 50 grains of propellant explosive per unit. Not subject to requirements of this subchapter									
	Fire extinguisher charge containing sulfuric acid	Corrosive material	Corrosive	173.261		1 quart	1 gallon	1,2	1,2	
	Fireworks, common	Class C explosive	Explosive C	None	173.100 173.108	50 pounds	200 pounds	1,3	1,3	Passenger vessels in metal lockers only
	Fireworks, exhibition display piece. See Fireworks, special									
	Fireworks, special	Class B explosive	Explosive B	None	173.88 173.91	Forbidden	200 pounds	3	3	Passenger vessels in metal lockers only Toy torpedoes must not be packed with other special fireworks

(1)	(2)	(3)	(4)	(5)		(6)		(7)		
				Packaging		Maximum net quantity in one package		Water shipments		
*/W/A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
W	Fish meal *or* fish scrap containing 6% to 12% water	ORM-C	None	173.505	173.995			1,2	1,2	Segregation same as for flammable solids. Separate from flammable gases or liquids, oxidizing materials, or organic peroxides. *Use double strip stowage* for cargo 6-12 percent moisture containing not more than 12 percent fat. *Use single strip stowage* for cargo 6-12 percent moisture containing 12-15 percent fat
	Fish meal *or* fish scrap containing less than 6% or more than 12% water	Flammable solid	Flammable solid	None	173.171	Forbidden	Forbidden	1,2	1,2	Separate from flammable gases or liquids, oxidizing materials, or organic peroxides
	Fissile radioactive material. *See* Radioactive material, fissile									
*	Flame retardant compound liquid	Corrosive material	Corrosive	173.244	173.291	1 quart	10 gallons	1,2	1,2	
	Flammable Gas n.o.s. *See* Compressed gas, n.o.s.									
	Flammable liquid, n.o.s.	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Flammable solid, n.o.s.	Flammable solid	Flammable solid	173.153	173.154	25 pounds	25 pounds	1,2	1,2	
	Flare. See Fireworks, common									
	Flare, airplane. See Fireworks, special									
	Flash cartridge. See Fireworks, special *or* Low explosives									
	Flash cracker. See Fireworks, common *or* special									
	Flash powder. See Fireworks, special *or* Low explosives									
	Flax. See Fibers									
	Flexible linear shaped charge, metal clad	Class C explosive	Explosive C	None	173.104	50 pounds	300 pounds	1,3	1,3	
	Flowers of sulfur. *See* Sulfur									
	Flue dust, poisonous	Poison B	Poison	173.364	173.368	50 pounds	200 pounds	1,2	1,2	
	Fluoboric acid	Corrosive material	Corrosive	173.244	173.283	1 quart	1 gallon	1,2	1,2	
	Fluoric acid. *See* Hydrofluoric acid									
	Fluorine	Nonflammable gas	Poison and Oxidizer	None	173.302	Forbidden	Forbidden	1	5	Stow in well ventilated space away from organic materials
	Fluorophosphoric acid, anhydrous. *See* Monofluorophosphoric acid, anhydrous									
	Fluorosilicic acid. *See* Hydrofluosilicic acid									
	Fluorosulfonic acid *or* Fluosulfonic acid	Corrosive material	Corrosive	None	173.274	Forbidden	1 gallon	1	5	Keep dry
AW	Formaldehyde, formalin solution (in containers of 110 gallons or less) ORM-A		None	173.505	173.510	10 gallons	55 gallons	1,2	4	
	Formaldehyde, *or* formalin solution (*in containers over 110 gallons*)	Combustible liquid	None	173.118a	None	10 gallons	55 gallons	1,2	1,2	
	Formalin. *See* Formaldehyde solution									
	Formic acid	Corrosive material	Corrosive	173.244	173.245 173.289	1 quart	5 gallons	1,2	1,2	Glass carboys in hampers not permitted under deck
*	Formic acid solution	Corrosive material	Corrosive	173.244	173.245 173.289	1 quart	5 gallons	1,2	1,2	
*	Fuel, aviation, turbine engine	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
*	Fuel oil	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
	Fuel oil, Diesel. *See* Fuel oil									
	Fuel oil, No. 1, 2, 4 *or* 5	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
	Fulminate of mercury, dry	Forbidden								
	Fulminate of mercury, wet. See Initiating explosive									
	Fumaryl chloride	Corrosive material	Corrosive	173.244	173.245	1 quart	1 quart	1	1	Glass carboys not permitted
*	*Fumigant*				173.152					
*	Furfural	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1	
	Fusee (*railway or highway*)	Flammable solid	Flammable solid	None	173.154a	50 pounds	200 pounds	1,3	1,3	
	Fuse igniter	Class C explosive	Explosive C	None	173.106	50 pounds	150 pounds	1,3	1,3	
	Fuse, instantaneous	Class C explosive	Explosive C	173.100		50 pounds	150 pounds	1,2	1,2	
	Fuse lighter	Class C explosive	Explosive C	None	173.106	50 pounds	150 pounds	1,3	1,3	

§ 172.101 Hazardous Materials Table—(Continued)

(1)	(2)	(3)	(4)	(5) Packaging		(6) Maximum net quantity in one package		(7) Water shipments		
*/ W/ A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Fusel oil	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
	Fuse, mild detonating, metal clad	Class C explosive	Explosive C	None	173.104	50 pounds	300 pounds	1,2	1,2	
	Fuse, safety	Class C explosive	Explosive C	173.100		50 pounds	300 pounds	1,2	1,2	
	Fuze, combination	Class C explosive	Explosive C	None	173.105	50 pounds	150 pounds	1,3	1,3	
	Fuze, detonating	Class A explosive	Explosive A	None	173.69	Forbidden	Forbidden	6	5	
	Fuze, detonating, Class C explosive	Class C explosive	Explosive C	None	173.113	50 pounds	150 pounds	1,3	1,3	
	Fuze, detonating, radioactive	Class A explosive	Explosive A	None	173.69	Forbidden	Forbidden	6	5	
	Fuze, percussion	Class C explosive	Explosive C	None	173.105	50 pounds	150 pounds	1,3	1,3	
	Fuze, time	Class C explosive	Explosive C	None	173.105	50 pounds	150 pounds	1,3	1,3	
	Fuze, tracer	Class C explosive	Explosive C	None	173.105	50 pounds	150 pounds	1,3	1,3	
W	Garbage tankage *containing 8% or more water*	ORM-C	None	173.505	173.1000			1,2	1,2	
	Garbage tankage, *containing less than 8% water*	Flammable solid	Flammable solid	None	173.209	Forbidden	Forbidden	1	1	Separate from flammable gases or liquids, oxidizing materials, or organic peroxides
	Gas cylinder, empty. *See* Cylinder, empty									
*	Gas drips, hydrocarbon	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
*	Gas drips, hydrocarbon	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
*	Gas identification set	Poison A	Poison gas	None	173.331	Forbidden	Forbidden	1	5	
*	Gas identification set	Irritating material	Irritant	None	173.331	Forbidden	Forbidden	1	5	
	Gas mine. See Explosive mine									
	Gas oil. *See* Fuel oil									
	Gasoline (*including casing-head and natural*)	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	4	
	Gelatine Dynamite. See High explosive									
	Germane	Poison A	Poison gas and Flammable gas	None	173.328	Forbidden	Forbidden	1	5	
	Grenade, empty, primed	Class C explosive	Explosive C	None	173.107	50 pounds	150 pounds	1,3	1,3	
	Grenade, hand *or* rifle, explosive (*with or without gas, smoke, or incendiary material*)	Class A explosive	Explosive A	None	173.56	Forbidden	Forbidden	1,2	5	No other cargo may be stowed in the same hold with these items
	Grenade, tear gas	Irritating material	Irritant	None	173.385	Forbidden	75 pounds	1,2	1	
	Grenade without bursting charge: With incendiary material (Special fireworks)	Class B explosive	Explosive B	173.91		Forbidden	Forbidden	3	3	Passenger vessels in metal lockers only
	Grenade without bursting charge: With smoke charge (Smoke grenade)	Class C explosive	Explosive C	173.108		50 pounds	150 pounds	1,3	1,3	
	Grenade without bursting charge: With Poison A gas charge	Poison A	Poison gas	173.330		Forbidden	Forbidden			*See* correct shipping name of applicable Poison A material for stowage, special handling, and special segregation requirements
	Grenade without bursting charge: With Poison B charge	Poison B	Poison	173.350		Forbidden	Forbidden			*See* correct shipping name of applicable Poison B material for stowage, special handling, and special segregation requirements
	Guanidine nitrate	Oxidizer	Oxidizer	173.153	173.182	25 pounds	100 pounds	1,2	1,2	Separate from nitro-compounds, chlorates, and acids
	Guanyl nitrosamino guanylidene hydrazine. See Initiating explosive									
	Guanyl nitrosamino guanyl tetrazene. See Initiating explosive									
	Guided missile, without warhead. See Rocket motor, Class A explosive *or* Rocket motor, class B explosive									
	Guided missile with warhead. See Rocket ammunition with explosive, illuminating, gas, incendiary, *or* smoke projectile									
	Guncotton. See High explosive									
	Hafnium metal, dry (*See Note 3, Sec. 173.214*)	Flammable solid	Flammable solid	None	173.214	Forbidden	75 pounds	1	5	
	Hafnium metal, wet	Flammable solid	Flammable solid	None	173.214	Forbidden	150 pounds	1,2	5	

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	Hair, wet	Flammable solid	Flammable solid	None	173.172	Forbidden	Forbidden	1,2	5	Separate from flammable gases or liquids, oxidizing materials, or organic peroxides
	Hand signal device	Class C explosive	Explosive C	None	173.108	50 pounds	200 pounds	1,2	1,2	
W	Hay	ORM-C	None	173.505	173.1005			1,2	1,2	Segregation same as for flammable solids. Stow away from animal or vegetable oils
W	Hay or straw (*loose, wet, or damp*)									Forbidden for water shipment
	Heater for refrigerator car, liquid fuel type (*containing fuel*)	Flammable liquid	Flammable liquid	173.146		Forbidden.	Forbidden	1,2	1	
*	Helium	Nonflammable gas	Nonflammable gas	173.306	173.302 173.314	150 pounds	300 pounds	1,2	1,2	
*	Helium-oxygen mixture	Nonflammable gas	Nonflammable gas	173.306	173.302	150 pounds	300 pounds	1,2	1,2	
	Heptane	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
W	*Hessian. See* Burlap cloth									
W	Hexachloroethane	ORM-A	None	173.505	173.650			1,2	1,2	
	Hexadecyltrichlorosilane	Corrosive material	Corrosive	None	173.280	Forbidden	10 gallons	1	1	Keep dry
	Hexadiene	Flammable liquid	Flammable liquid	None	173.119	Forbidden	10 gallons	1,2	5	
	Hexaethyl tetraphosphate and compressed gas mixture	Poison A	Poison gas	None	173.334	Forbidden	Forbidden	1	5	Shade from radiant heat
	Hexaethyl tetraphosphate, liquid	Poison B	Poison	None	173.358	Forbidden	1 quart	1	4	
	Hexaethyl tetraphosphate mixture, dry (*containing more than 2% hexaethyl tetraphosphate*)	Poison B	Poison	None	173.377	Forbidden	200 pounds	1,2	5	
*	Hexaethyl tetraphosphate mixture, dry (containing not more than 2% hexaethyl tetraphosphate)	Poison B	Poison	173.377	173.377	50 pounds	200 pounds	1,2	4	
	Hexaethyl tetraphosphate mixture, liquid (*containing more than 25% hexaethyl tetraphosphate*)	Poison B	Poison	None	173.359	Forbidden	1 quart	1,2	5	
*	Hexaethyl tetraphosphate mixture, liquid (containing not more than 25% hexaethyl tetraphosphate)	Poison B	Poison	173.359	173.359	1 quart	1 quart	1,2	4	
	Hexafluorophosphoric acid	Corrosive material	Corrosive	None	173.275	Forbidden	1 gallon	1,2	1,2	
	Hexafluoropropylene	Nonflammable gas	Nonflammable gas	173.306	173.304 173.314 173.315	150 pounds	300 pounds	1	4	
*	Hexaldehyde	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1,2	
	Hexamethylene diamine, solid	Corrosive material	Corrosive	173.244	173.245b	25 pounds	100 pounds	1,2	1,2	
*	Hexamethylene diamine solution	Corrosive material	Corrosive	173.244	173.292	1 quart	10 gallons	1,2	1,2	
	Hexamethylene imine	Corrosive material	Corrosive	173.244	173.245	1 quart	10 gallons	1,2	1,2	
	Hexane	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,3	4	
	Hexanoic acid	Corrosive material	Corrosive	173.244	173.245	1 quart	10 gallons	1,2	1,2	
	Hexyltrichlorosilane	Corrosive material	Corrosive	None	173.280	Forbidden	10 gallons	1	1	Keep dry
	High explosive	Class A explosive	Explosive A	173.65	173.61 to 173.87	Forbidden	Forbidden	6	5	
	High explosive, liquid	Class A explosive	Explosive A	None	173.62	Forbidden	Forbidden	6	5	
*	Hydraulic accumulator. *See* Accumulator, pressurized									
	Hydrazine, anhydrous	Flammable liquid	Flammable liquid and Poison	None	173.276	Forbidden	5 pints	1	5	Segregation same as for corrosives
*	Hydrazine, aqueous solution	Corrosive material	Corrosive	None	173.276	Forbidden	5 pints	1	5	
*	Hydriodic acid	Corrosive material	Corrosive	173.244	173.245	1 quart	1 gallon	1	1	Glass carboys not permitted on passenger vessel
	Hydrobromic acid, anhydrous. *See* Hydrogen bromide									
	Hydrobromic acid, *more than 49% strength*	Corrosive material	Corrosive	None	173.262	Forbidden	Forbidden	1	1	Glass carboys not permitted on passenger vessel
*	Hydrobromic acid not more than 49% strength	Corrosive material	Corrosive	173.244	173.262	1 quart	1 gallon	1	1	Glass carboys not permitted on passenger vessel
	Hydrocarbon gas, liquefied	Flammable gas	Flammable gas	173.306	173.304 173.314	Forbidden	300 pounds	1,2	1	
*	Hydrocarbon gas, nonliquefied	Flammable gas	Flammable gas	173.306	173.302	Forbidden	300 pounds	1,2	1	

§ 172.101 Hazardous Materials Table—(Continued)

(1)	(2)	(3)	(4)	(5) Packaging		(6) Maximum net quantity in one package		(7) Water shipments		
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*	Hydrochloric (*muriatic*) acid	Corrosive material	Corrosive	173.244	173.263	1 quart	1 gallon	1	1	Glass carboys not permitted on passenger vessel
	Hydrochloric acid, anhydrous. *See* Hydrogen chloride									
*	Hydrochloric acid mixture	Corrosive material	Corrosive	173.244	173.263	1 quart	1 gallon	1	1	Glass carboys not permitted on passenger vessel
*	Hydrochloric acid solution, inhibited	Corrosive material	Corrosive	173.244	173.263	1 quart	1 gallon	1	1	Glass carboys not permitted on passenger vessel
	Hydrocyanic acid, liquefied	Poison A	Flammable gas and Poison gas	None	173.332	Forbidden	Forbidden	1	5	
	Hydrocyanic acid (*prussic*), solution (*5% or more hydrocyanic acid*)	Poison A	Flammable gas and Poison gas	None	173.332	Forbidden	Forbidden	1	5	Shade from radiant heat. Aqueous solutions containing more than 20 percent hydrogen cyanide are not permitted in transportation by water
	Hydrocyanic acid (*prussic*), unstabilized	Forbidden								
	Hydrocyanic acid solution, less than 5% hydrocyanic acid	Poison B	Poison	None	173.351	Forbidden	25 pounds	1	5	Shade from radiant heat
	Hydrofluoric acid, anhydrous. *See* Hydrogen fluoride									
*	Hydrofluoric acid solution	Corrosive material	Corrosive	173.244	173.264	1 quart	1 gallon	1	4	
*	Hydrofluoric and sulfuric acids, mixture	Corrosive material	Corrosive	None	173.290	Forbidden	1 gallon	1	5	
	Hydrofluoroboric acid. *See* Fluoboric acid									
	Hydrofluorosilicic acid	Corrosive material	Corrosive	None	173.265	1 quart	1 gallon	1,2	1,2	
	Hydrogen	Flammable gas	Flammable gas	173.306	173.302 173.314	Forbidden	300 pounds	1,2	4	
	Hydrogen, cryogenic liquid *or* Liquified	Flammable gas	Flammable gas	None	173.316	Forbidden	Forbidden			Forbidden
	Hydrogen bromide	Nonflammable gas	Nonflammable gas	173.306	173.304	Forbidden	300 pounds	1	4	
	Hydrogen chloride	Nonflammable gas	Nonflammable gas	173.306	173.304	Forbidden	300 pounds	1	4	
	Hydrogen fluoride	Corrosive material	Corrosive	None	173.264	Forbidden	110 pounds	1	5	Segregation same as for nonflammable gases
	Hydrogen iodide solution. *See* Hydriodic acid									
	Hydrogen peroxide solution (8% to 40% peroxide)	Oxidizer	Oxidizer	173.244	173.266	1 quart	1 gallon	1,2	1	Shade from radiant heat. Separate from permanganates. Keep away from powdered metals
	Hydrogen peroxide solution (40% to 52% peroxide)	Oxidizer	Oxidizer	173.244	173.266	Forbidden	Forbidden	1	4	Shade from radiant heat. Separate from permanganates. Keep away from powdered metals
	Hydrogen peroxide solution (over 52% peroxide)	Oxidizer	Oxidizer	None	173.266	Forbidden	Forbidden	1	5	Shade from radiant heat. Separate from permanganates. Keep away from powdered metals. Concentrations greater than 60% hydrogen peroxide not permitted on any vessel except under conditions approved by the Department
	Hydrogen selenide	Flammable gas	Flammable gas and. Poison	None	173.328	Forbidden	Forbidden	1	5	
	Hydrogen sulfate. *See* Sulfuric acid									
	Hydrogen sulfide	Flammable gas	Flammable gas and Poison	None	173.304 173.314	Forbidden	300 pounds	1	5	
	Hydrosilicofluoric acid. *See* Hydrofluorosilicic acid									
	Hypochlorite solution *containing more than 7% available chlorine by weight*	Corrosive material	Corrosive	173.244	173.277	1 quart	4 gallons	1,2	1	Glass carboys in hampers not permitted under deck
A*	Hypochlorite solution containing not more than 7% available chlorine *by weight*	ORM-B	None	173.505	173.510	No limit	No limit			
	Igniter	Class C explosive	Explosive C	None	173.106	50 pounds	150 pounds	1,3	1,3	
	Igniter cord	Class C explosive	Explosive C	None	173.100	50 pounds	150 pounds	1,3	1,3	
	Igniter fuse, metal clad	Class C explosive	Explosive C	None	173.106	50 pounds	150 pounds	1,3	1,3	
*	Igniter, jet thrust (jato)	Class A explosive	Explosive A	None	173.79	Forbidden	Forbidden	6	5	
*	Igniter, jet-thrust (jato)	Class B explosive	Explosive B	None	173.92	Forbidden	550 pounds	1,3	5	
*	Igniter, rocket motor	Class A explosive	Explosive A	None	173.79	Forbidden	Forbidden	6	5	
*	Igniter, rocket motor	Class B explosive	Explosive B	None	173.92	Forbidden	550 pounds	1,3	5	
	Illuminating projectile. See Fireworks, special									

§ 172.101 Hazardous Materials Table—(Continued)

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	Iminobispropylamine	Corrosive material	Corrosive	173.244	173.245	1 quart	10 gallons	1,2	1,2	
	Initiating explosive *Diazodinitrophenol*	Class A explosive	Explosive A	None	173.70	Forbid-den	Forbid-den	6	5	
	Initiating explosive *Fulminate of mercury*	Class A explosive	Explosive A	None	173.71	Forbid-den	Forbid-den	6	5	
	Initiating explosive *Guanyl nitrosamino guanylidene hydrazine*	Class A explosive	Explosive A	None	173.72	Forbid-den	Forbid-den	6	5	
	Initiating explosive *Lead azide, dextrinated type only*	Class A explosive	Explosive A	None	173.73	Forbid-den	Forbid-den	6	5	
	Initiating explosive *Lead mononitroresorcinate*	Class A explosive	Explosive A	None	173.70	Forbid-den	Forbid-den	6	5	
	Initiating explosive Lead styphnate (*lead trinitroresorcinate*)	Class A explosive	Explosive A	None	173.74	Forbid-den	Forbid-den	6	5	
	Initiating explosive *Nitro mannite*	Class A explosive	Explosive A	None	173.75	Forbid-den	Forbid-den	6	5	
	Initiating explosive *Nitrosoguanidine*	Class A explosive	Explosive A	None	173.76	Forbid-den	Forbid-den	6	5	
	Initiating explosive *Pentaerythrite tetranitrate*	Class A explosive	Explosive A	None	173.77	Forbid-den	Forbid-den	6	5	
	Initiating explosive Tetrazene (*guanyl nitrosamine guanyl tetrazene*)	Class A explosive	Explosive A	None	173.78	Forbid-den	Forbid-den	6	5	
*	Ink	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
*	Ink	Flammable liquid	Flammable liquid	173.118	173.144	1 quart	10 gallons	1,2	1	
*	Insecticide, dry, n.o.s.	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
	Insecticide, liquefied gas (*containing no Poison A or B material*)	Nonflamma-ble gas	Nonflamma-ble gas	173.306	173.304	150 pounds	300 pounds	1,3	1,3	
	Insecticide, liquefied gas, containing Poison A material *or* Poison B material	Poison A	Poison gas	None	173.329 173.334	Forbid-den	Forbid-den	1	5	Shade from radiant heat
*	Insecticide, liquid, n.o.s.	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
*	Insecticide, liquid, n.o.s.	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
*	Insecticide, liquid, n.o.s.	Poison B	Poison	173.345	173.346	1 quart	55 gallons	1,2	1,2	
W	Insulation tape (*varnished cloth type*). *See* Oiled textiles									
	Iodine monochloride	Corrosive material	Corrosive	None	173.293	Forbid-den	1 quart	1	5	Keep dry
	Iodine pentafluoride	Oxidizer	Oxidizer and Poison	None	173.246	Forbid-den	100 pounds	1	1	Keep dry
	Iron chloride, solid. *See* Ferric chloride, solid									
	Iron mass *or* sponge, *not properly oxidized*	Flammable solid	Flammable solid	None	173.174	Forbid-den	Forbid-den	1,2	5	Separate from flammable gases or liquids, oxidizing materials, or organic peroxides
	Iron mass or sponge spent	Flammable solid	Flammable solid	None	173.174	Forbid-den	Forbid-den	1,2	5	Separate from flammable gases or liquids, oxidizing materiels, or organic peroxides
A	*Iron, oxide, spent*					Forbid-den	Forbid-den			
	Iron sesquichloride, solid. *See* Ferric chloride									
	Irritating agent, n.o.s.	Irritating material	Irritant	173.382		Forbid-den	75 pounds	1	1	Stow away from living quarters
	Isobutane *or* Liquefied petroleum gas. *See* Liquefied petroleum gas									
	Isobutyl acetate	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Isobutylamine	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Isobutylene or Liquefied petroleum gas. *See* Liquefied petroleum gas									
	Isobutyric acid	Corrosive material	Corrosive	173.244	173.245	1 quart	10 gallons	1,2	1,2	
	Isobutyric anhydride	Corrosive material	Corrosive	173.244	173.245	1 quart	10 gallons	1,2	1,2	
	Isooctane	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Isooctene	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,3	4	
	Isopentane	Flammable liquid	Flammable liquid	173.118	173.119	Forbid-den	10 gallons	1,3	4	
	Isopentanoic acid	Corrosive material	Corrosive	173.244	173.245	1 quart	10 gallons	1,2	1,2	
	Isoprene	Flammable liquid	Flammable liquid	173.118	173.119	Forbid-den	10 gallons	1,3	4	
	Isopropanol. *See* Alcohol, n.o.s.									

§ 172.101 Hazardous Materials Table—(Continued)

(1)	(2)	(3)	(4)	(5)		(6)		(7)		
				Packaging		Maximum net quantity in one package		Water shipments		
*/ W/ A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Isopropyl acetate	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Isopropyl acid phosphate solid	Corrosive material	Corrosive	173.244	173.245b	25 pounds	100 pounds	1,2	1,2	
	Isopropylamine	Flammable liquid	Flammable liquid	None	173.119	Forbidden	10 gallons	1,3	5	
	Isopropyl mercaptan	Flammable liquid	Flammable liquid	None	173.141	Forbidden	10 gallons	1,3	5	
	Isopropyl nitrate	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Isopropyl percarbonate, stabilized	Organic peroxide	Organic peroxide	None	173.282	Forbidden	Forbidden	5	5	
	Isopropylpercarbonate, unstabilized	Organic peroxide	Organic peroxide	None	173.218	Forbidden	Forbidden	5	5	
	Isopropyl phosphoric acid, solid. *See* Isopropyl acid phosphate, solid									
	Jet thrust igniter. *See* Igniter, jet thrust									
*	Jet thrust unit (*jato*)	Class A explosive	Explosive A	None	173.79	Forbidden	Forbidden	6	5	
*	Jet thrust unit (*jato*)	Class B explosive	Explosive B	None	173.92	Forbidden	550 pounds	1,3	5	
W	*Jute. See* Fibers									
W	*Kapok. See* Fibers									
	Kerosene	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
*	Lacquer. *See* *Paint, enamel, lacquer, stain, etc.									
*	Lacquer base, liquid. *See* *Paint, enamel, lacquer, stain, etc.									
*	Lacquer base, *or* lacquer chips, dry	Flammable solid	Flammable solid	173.153	173.175	25 pounds	100 pounds	1	1	
*	Lacquer base *or* lacquer chips, plastic (*wet with alcohol or solvent*)	Flammable liquid	Flammable liquid	173.118	173.127	1 quart	25 pounds	1,2	1	
*	Lacquer removing, reducing, *or* thinning compound. *See* Compound, lacquer, paint, *or* varnish, *etc.*, removing, reducing *or* thinning liquid									
	Lauroyl peroxide	Organic peroxide	Organic peroxide	173.153	173.157 173.158	2 pounds	25 pounds	1,2	1	
	Lead arsenate, solid	Poison B	Poison	173.364	173.367	50 pounds	200 pounds	1,2	1,2	
	Lead arsenite, solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
	Lead azide. See Initiating explosive									
A	Lead chloride	ORM-B	None	173.505	173.510 173.800	25 pounds	100 pounds			
	Lead cyanide	Poison B-	Poison	173.370		25 pounds	No limit	1,2	1,2	Stow away from acids
W	Lead dross	ORM-C	None	173.505	173.1010			1,2	1,2	Segregation same as for corrosive materials
	Lead mononitroresorcinate. See Initiating explosive									
	Lead nitrate	Oxidizer	Oxidizer	173.153	173.182	25 pounds	100 pounds	1,2	1,2	Stow away from foodstuffs
	Lead peroxide	Oxidizer	Oxidizer	173.153	173.154	25 pounds	100 pounds	1,2	1,2	Stow away from foodstuffs
W	Lead scrap. *See* Lead dross									
	Lead styphnate (lead trinitroresorcinate). See Initiating explosive									
	Lead sulfate, solid (*containing more than 3% free acid*)	Corrosive material	Corrosive	173.244	173.245b	25 pounds	100 pounds	1,2	1,2	
*	Leather bleach *or* dressing	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
*	Leather bleach *or* dressing	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
	Lighter fluid	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Lime-nitrogen. See Calcium cyanamide, not hydrated, etc.									
	Lime, unslaked. *See* Calcium oxide									
A	Lindane	ORM-A	None	173.505	173.510	No limit	No limit			
	Liquefied hydrocarbon gas. *See* Hydrocarbon gas, liquefied									
*	Liquefied nonflammable gas (*charged with nitrogen, carbon dioxide, or air*)	Nonflammable gas	Nonflammable gas	173.306	173.304	30 pounds	30 pounds	1,2	1,2	
	Liquefied petroleum gas	Flammable gas	Flammable gas	173.306	173.304 173.314 173.315	Forbidden	300 pounds	1,2	1	

(1)	(2)	(3)	(4)	(5)		(6)		(7)		
				Packaging		Maximum net quantity in one package		Water shipments		
*/W/A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Liquid other than one classed as flammable, corrosive, poison or irritant, charged with nitrogen, carbon dioxide, or air. See Compressed gas n.o.s.									
	Lithium acetylide-ethylene diamine complex	Flammable solid	Flammable solid and Dangerous when wet	None	173.206	Forbidden	25 pounds	1,2	5	Segregation same as for flammable solid labeled Dangerous When Wet
	Lithium aluminum hydride	Flammable solid	Flammable solid and Dangerous when wet	None	173.206	Forbidden	25 pounds	1,2	5	Segregation same as for flammable solid labeled Dangerous When Wet
	Lithium aluminum hydride, ethereal	Flammable liquid	Flammable liquid	None	173.137	Forbidden	1 quart	1	5	Segregation same as for flammable solids labeled Dangerous When Wet
	Lithium amide, powdered	Flammable solid	Flammable solid	173.153	173.168	25 pounds	100 pounds	1,2	4	Segregation same as for flammable solids labeled Dangerous When Wet
	Lithium borohydride	Flammable solid	Flammable solid and Dangerous when wet	None	173.206	Forbidden	25 pounds	1,2	5	Segregation same as for flammable solids labeled Dangerous When Wet
	Lithium ferro silicon	Flammable solid	Flammable solid and Dangerous when wet	None	173.206	Forbidden	25 pounds	1,2	5	Segregation same as for flammable solids labeled Dangerous When Wet
	Lithium hydride	Flammable solid	Flammable solid and Dangerous when wet	None	173.206	Forbidden	25 pounds	1,2	5	Segregation same as for flammable solids labeled Dangerous When Wet
	Lithium hydride in fused solid form	Flammable solid	Flammable solid and Dangerous when wet	None	173.206	Forbidden	100 pounds	1,2	5	Segregation same as for flammable solids labeled Dangerous When Wet
	Lithium hypochlorite compound, dry (*containing more than 39% available chlorine*)	Oxidizer	Oxidizer	173.153	173.217	50 pounds	100 pounds	1,2	1,2	
	Lithium metal	Flammable solid	Flammable solid and Dangerous when wet	None	173.206	Forbidden	25 pounds	1,2	5	Segregation same as for flammable solids labeled Dangerous When Wet
	Lithium metal, in cartridges	Flammable solid	Flammable solid and Dangerous when wet	173.206		1 pound	25 pounds	1,2	4	Segregation same as for flammable solids labeled Dangerous When Wet
	Lithium nitride	Flammable solid	Flammable solid and Dangerous when wet	None	173.206	Forbidden	25 pounds	1,2	5	Segretation same as for flammable solids labeled Dangerous When Wet
	Lithium peroxide	Oxidizer	Oxidizer	173.153	173.154	25 pounds	100 pounds	1,2	1,2	Keep dry
	Lithium silicon	Flammable solid	Flammable solid and Dangerous when wet	None	173.206	Forbidden	25 pounds	1,2	1,2	Segregation same as for flammable solids labeled Dangerous When Wet
	London purple, solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
	Low blasting explosive. See Low explosive									
	Low explosive	Class A Explosive	Explosive A	None	173.60	Forbidden	Forbidden	6	5	
	Lye. See Sodium hydroxide, solid									
	Magnesium aluminum phosphide	Flammable solid	Flammable solid and Dangerous when wet	None	173.206	Forbidden	25 pounds	1,2	1,2	Segregation same as for flammable solids labeled Dangerous When Wet
	Magnesium arsenate, solid	Poison B	Poison	173.364	173.367	50 pounds	200 pounds	1,2	1,2	
	Magnesium dross, wet or hot	Forbidden		173.173						
*	Magnesium, metal (*powdered, pellets, turnings, or ribbons*)	Flammable solid	Flammable solid and Dangerous when wet	173.153	173.220	25 pounds	100 pounds	1,2	1,2	Segregation same as for flammable solids labeled Dangerous When Wet
	Magnesium nitrate	Oxidizer	Oxidizer	173.153	173.182	25 pounds	100 pounds	1,2	1,2	
	Magnesium perchlorate	Oxidizer	Oxidizer	173.153	173.154	25 pounds	100 pounds	1,3	1,3	Stow away from powdered metals
	Magnesium peroxide, solid	Oxidizer	Oxidizer	173.153	173.154	25 pounds	100 pounds	1,2	1,2	Keep dry
*	Magnesium scrap (*borings, clippings, shavings, sheet, turnings, or scalpings*)	Flammable solid	Flammable solid and Dangerous when wet	173.153	173.220	Forbidden	Forbidden	1,2	1,2	Segregation same as for flammable solids labeled Dangerous When Wet
A	Magnetized material	ORM-C	Magnetized material	None	173.1020					
A	Malathion	ORM-A	None	173.505	173.510					

§ 172.101 **Hazardous Materials Table—(Continued)**

(1)	(2)	(3)	(4)	(5) Packaging		(6) Maximum net quantity in one package		(7) Water shipments		
*/W/A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
A	Manganese dioxide	ORM-B	None	173.505	173.510					
	Matches, block. See Matches, strike anywhere									
	Matches, safety, *book, card, or strike-on-box*	Flammable solid	Flammable solid	173.176		50 pounds	50 pounds	1,2	1	
	Matches, strike anywhere	Flammable solid	Flammable solid	None	173.176	Forbidden	Forbidden	1,2	1	
	Matting acid. *See* Sulfuric acid									
•	Medicines, n.o.s.	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
•	Medicines, n.o.s.	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
•	Medicines, n.o.s.	Flammable solid	Flammable solid	173.153	173.154	25 pounds	100 pounds	1,2	1,2	
•	Medicines, n.o.s.	Oxidizer	Oxidizer	173.153	173.154	25 pounds	100 pounds	1,2	1,2	
•	Medicines, n.o.s., liquid	Corrosive material	Corrosive	173.244	173.245	1 quart	1 quart	1,2	1,2	
•	Medicines, n.o.s., liquid	Poison B	Poison	173.345	173.346	1 quart	55 gallons	1,3	1	
•	Medicines, n.o.s., solid	Corrosive material	Corrosive	173.244	173.245b	25 pounds	100 pounds	1,2	1,2	Keep dry
•	Medicines, n.o.s., solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,3	1,3	
	Memtetrahydro phthalic anhydride	Corrosive material	Corrosive	None	173.298	Forbidden	1 quart	1,2	1	
•	Mercaptan mixture, aliphatic (*in containers over 110 gallons*)	Combustible liquid	None	173.118a		Forbidden	10 gallons	1,2	1,2	
AW	Mercaptan mixture, aliphatic (*in containers of 110 gallons or less*) *see 173.141(b)*	ORM-A	None	173.505	173.510	Forbidden	10 gallons	1,3	5	Stow in well ventilated space away from living quarters
•	Mercaptan mixture, aliphatic	Flammable liquid	Flammable liquid	None	173.141	Forbidden	10 gallons	1,3	5	
	Mercuric acetate	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
	Mercuric-ammonium chloride, solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
	Mercuric benzoate, solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
	Mercuric bromide, solid	Poison B	Poison	173.364	173.365	Forbidden	25 pounds	1,2	1,2	
	Mercuric chloride, solid	Poison B	Poison	173.364	173.372	Forbidden	25 pounds	1,2	1,2	
	Mercuric cyanide, solid	Poison B	Poison	173.370		25 pounds	200 pounds	1,2	1,2	Stow away from acids
	Mercuric iodide, solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
•	Mercuric iodide solution	Poison B	Poison	173.345	173.346	1 quart	55 gallons	1,2	1,2	
	Mercuric oleate, solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
	Mercuric oxide, solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
	Mercuric oxycyanide, solid	Poison B	Poison	173.364	173.365	25 pounds	200 pounds	1,2	1,2	Stow away from acids
	Mercuric-potassium cyanide, solid	Poison B	Poison	173.364	173.365 173.370	25 pounds	200 pounds	1,2	1,2	Stow away from acids
	Mercuric-potassium iodide, solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
	Mercuric salicylate solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
	Mercuric subsulfate, solid	Poison B	Poison	173,364	173.365	50 pounds	200 pounds	1,2	1,2	
	Mercuric sulfate, solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
	Mercuric sulfo cyanate, solid or mercuric thiocyanate, solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
	Mercurol, or mercury nucleate, solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
	Mercurous acetate, solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
	Mercurous bromide, solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
	Mercurous gluconate, solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
	Mercurous iodide, solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
	Mercurous nitrate, solid	Oxidizer	Oxidizer	173.153	173.154	50 pounds	100 pounds	1,2	1,2	
	Mercurous oxide, black, solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	

§ 172.101 **Hazardous Materials Table—(Continued)**

(1)	(2)	(3)	(4)	(5) Packaging		(6) Maximum net quantity in one package		(7) Water shipments		
*/W/A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Mercurous sulfate, solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
*	Mercury compound, n.o.s., solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
	Mercury fulminate. See Initiating explosive									
A	Mercury, metallic	ORM-B	None	None	173.860	173.860	173.860			
	Mesityl oxide	Flammable liquid	Flammable liquid	None	173.119	1 quart	10 gallons	1,2	1,2	
W	Metal borings, shavings, turnings, *or* cuttings	ORM-C	None	173.505	173.1025			1,2	1,2	Keep dry. Not permitted if temperature of material is at or above 1300DEG0 F
	Methane	Flammable gas	Flammable gas	173.306	173.302	Forbidden	300 pounds	1,2	4	
	Methanol. *See* Methyl alcohol									
	Methyl acetate	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Methyl acetone	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Methylacetylene-propadiene, stabilized	Flammable gas	Flammable gas	173.306	173.304 173.314 173.315	Forbidden	300 pounds	1,2	1	
	Methyl acrylate, inhibited	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Methylal	Flammable liquid	Flammable liquid	None	173.119	Forbidden	10 gallons	1,3	5	
	Methyl alcohol	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Methylamine, anhydrous *or* Monomethylamine	Flammable gas	Flammable gas	173.306	173.304 173.314 173.315	Forbidden	300 pounds	1	4	
	Methyl amyl acetate	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1,2	
	Methyl amyl ketone	Combustible liquid	None	173.118a				1,2	1,2	
	Methyl bromide and ethylene dibromide mixture, liquid	Poison B	Poison	None	173.353	Forbidden	55 gallons	1	1	
	Methyl bromide and more than 2% chloropicrin mixture, liquid	Poison B	Poison	None	173.353	Forbidden	Forbidden	1	5	Shade from radiant heat
	Methyl bromide and nonflammable, nonliquefied compressed gas mixture, liquid.	Poison B	Poison	None	173.353a	Forbidden	300 pounds	1	5	Stow away from living quarters
	Methyl bromide, liquid (*bromomethane*) (*including up to 2% chloropicrin*)	Poison B	Poison	None	173.353	Forbidden	55 gallons	1	5	Stow away from living quarters. Segregation same as for nonflammable gas
	Methyl butene	Flammable liquid	Flammable liquid	None	173.119	Forbidden	10 gallons	1,2	5	
	Methyl butyrate	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Methyl cellosolve. See Ethylene glycol monomethyl ether									
	Methyl cellosolve acetate. See Ethylene glycol monomethyl ether acetate									
	Methyl chloride	Flammable gas	Flammable gas	173.306	173.304 173.314 173.315	Forbidden	300 pounds	1,2	4	
*	Methyl chloride-methylene chloride mixture	Flammable gas	Flammable gas	173.306	173.304 173.314	Forbidden	300 pounds	1,2	4	
	Methyl chlorocarbonate. *See* Methyl chloroformate									
A	Methyl chloroform	ORM-A	None	173.505	173.510 173.605	10 gallons	55 gallons			
	Methyl chloroformate	Flammable liquid	Flammable liquid and Poison	None	173.288	Forbidden	5 pints	1,2	1	
	Methylchloromethyl ether, anhydrous	Flammable liquid	Flammable liquid and Poison	None	173.143	Forbidden	Forbidden	1	5	Shade from radiant heat
	Methylcyclohexane	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Methylcyclopentane	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,3	4	
	Methyl dichloroacetate	Corrosive material	Corrosive	173.244	173.245	1 quart	1 quart	1,2	1,2	
	Methyldichloroarsine	Poison A	Poison gas	None	173.328	Forbidden	Forbidden	1	5	Shade from radiant heat
	Methyl dichlorosilane	Flammable liquid	Flammable liquid	None	173.136	Forbidden	5 pints	1,2	1	
	Methylene chloride. *See* Dichloromethane									
	Methyl ethyl ether. *See* Ethyl methyl ether									

§ 172.101 Hazardous Materials Table—(Continued)

(1)	(2)	(3)	(4)	(5)		(6)		(7)		
				Packaging		Maximum net quantity in one package		Water shipments		
*/ W/ A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Methyl ethyl ketone	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Methyl ethyl pyridine	Corrosive material	Corrosive	173.244	173.245	1 quart	10 gallons	1,2	1,2	
	Methyl formate	Flammable liquid	Flammable liquid	173.118	173.119	Forbidden	10 gallons	1,3	4	
	Methylfuran	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,3	4	
	Methylhydrazine	Flammable liquid	Flammable liquid and Poison	None	173.145	Forbidden	5 pints	1,2	1	Stow separate from oxidizing materials and corrosives
	Methyl isopropenyl ketone, inhibited	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Methyl magnesium bromide in ethyl ether *not over 40% concentration*	Flammable liquid	Flammable liquid	None	173.149	Forbidden	Forbidden	1	1	Segregation same as for flammable solids. Separate from flammable gases or liquids, oxidizing materials or organic peroxides
	Methyl mercaptan	Flammable gas	Flammable gas	173.306	173.304 173.314 173.315	Forbidden	300 pounds	1,2	1	
	Methyl methacrylate monomer, inhibited	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Methyl methacrylate monomer, uninhibited (*high-purity, if acceptable under Sec. 173.21 of this subchapter*)	Flammable liquid	Flammable liquid	173.118	173.119	Forbidden	Forbidden	1,2	1	
	Methyl norbornene dicarboxylic anhydride. *See* Memtetrahydro phthalic anhydride									
	Methyl parathion, liquid	Poison B	Poison	None	173.358	Forbidden	1 quart	1,3	1,3	
*	Methyl parathion mixture, dry	Poison B	Poison	173.377	173.377	50 pounds	200 pounds	1,2	1,2	
*	Methyl parathion mixture, liquid, (containing 25% or less methyl parathion)	Poison B	Poison	None	173.359	1/2 pint	1 quart	1,2	1,2	
	Methyl parathion mixture, liquid, (*containing over 25% methyl parathion*)	Poison B	Poison	None	173.359	Forbidden	1 quart	1,2	1,2	
	Methylpentadiene	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Methyl pentane	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Methyl phosphonothioic dichloride, anhydrous	Corrosive material	Corrosive	173.244	173.245 173.245a	1 quart	1 quart	1	4	
	Methyl phosphonous dichloride	Corrosive material	Corrosive	173.244	173.245 173.245a	1 quart	1 quart	1	4	
	Methyl propionate	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Methyl propyl ketone	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Methyl sulfate. *See* Dimethyl sulfate									
	Methyl sulfide. *See* Dimethyl sulfide									
	Methyltrichlorosilane	Flammable liquid	Flammable liquid	None	173.135	Forbidden	10 gallons	1,2	1	
	Methyl vinyl ketone, inhibited	Flammable liquid	Flammable liquid	173.147	173.147	4 ounces	10 gallons	1,2	1	
	Mild detonating fuse, metal clad. See Fuse, mild detonating, metal clad									
	Mine, empty See 173.55									
	Mine, explosive, with gas material. See Explosive mine									
	Mine rescue equipment containing carbon dioxide	Nonflammable gas	Nonflammable gas	173.306		150 pounds	300 pounds	1,2	1,2	
*	Mining reagent, liquid (*containing 20% or more cresylic acid*)	Corrosive material	Corrosive	173.244	173.245 173.249a	1 quart	10 gallons	1,2	1,2	
A	Mipafox	ORM-A	None	173.505	173.510	No limit	No limit			
	Mixed acid. *See* Nitrating (*mixed*) acid									
A	Molybdenum pentachloride	ORM-B	None	173.505	173.510 173.800	25 pounds	100 pounds			
	Monobromotrifluoromethane	Nonflammable gas	Nonflammable gas	173.306	173.304 173.314	150 pounds	300 pounds	1,2	1,2	
*	Monochloroacetic acid solution	Corrosive material	Corrosive	173.244	173.294	1 quart	1 quart	1,2	1,2	Glass carboys in hampers not permitted under deck
	Monochloroacetone	Forbidden								
	Monochlorodifluoromethane	Nonflammable gas	Nonflammable gas	173.306	173.304 173.314 173.315	150 pounds	300 pounds	1,2	1,2	
	Monochloroethylene. *See* Vinyl chloride									
	Monochloropentafluoroethane	Nonflammable gas	Nonflammable gas	173.306	173.304	150 pounds	300 pounds	1,2	1,2	

§ 172.101 Hazardous Materials Table—(Continued)

(1)	(2)	(3)	(4)	(5) Packaging		(6) Maximum net quantity in one package		(7) Water shipments		
*/W/A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Monochlorotetrafluoroethane	Nonflammable gas	Nonflammable gas	173.306	173.304 173.314	150 pounds	300 pounds	1,2	1,2	
	Monochlorotrifluoromethane	Nonflammable gas	Nonflammable gas	173.306	173.304	150 pounds	300 pounds	1,2	1,2	
	Monoethanolamine	Corrosive material	Corrosive	173.244	173.245	1 quart	10 gallons	1,2	1,2	
*	Monoethanolamine solution	Corrosive material	Corrosive	173.244	173.245	1 quart	10 gallons	1,2	1,2	
	Monoethylamine	Flammable liquid	Flammable liquid	None	173.148	Forbidden	5 pints	1,2	5	Segregation same as for flammable gas
	Monofluorophosphoric acid, anhydrous	Corrosive material	Corrosive	None	173.275	Forbidden	1 gallon	1,2	1,2	Keep dry
	Monomethylamine, anhydrous	Flammable gas	Flammable gas	173.306	173.304 173.314 173.315	Forbidden	300 pounds	1,2	4	
*	Monomethylamine, aqueous solution	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,3	4	Stow away from mercury and its compounds
	Mortar stain, liquid	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
*	Mortar stain, liquid	Flammable liquid	Flammable liquid	173.118	173.128	1 quart	55 gallons	1,2	1	
	Moth balls. See Naphthalene									
	Motion picture film. See Film									
	Motor fuel antiknock compound *or* antiknock compound	Poison B	Poison	None	173.354	Forbidden	55 gallons	1	5	If flashpoint less than 141 deg F, segregation same as for flammable liquids
*	Motor fuel n.o.s.	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
*	Motor fuel, n.o.s.	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Motor, internal combustion			173.120						
	Motor vehicle, *etc., including automobile, motorcycle, truck, tractor, and other self-propelled vehicle or equipment powered by internal combustion engine, when offered new or used for transportation and which contain fuel in the engine or fuel tank or the electric storage battery is connected to either terminal of the electrical system*	ORM-C	None	173.120 173.250 173.306 173.120 173.250 173.257 173.306 175.305 176.905				1,2	1,2	Not permitted in nonvented container
	Muriatic acid. *See* Hydrochloric (muriatic) acid									
*	Naphtha	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
*	Naphtha	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
*	Naphtha distillate	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
*	Naphtha distillate	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
AW	Naphthalene *or* Naphthalin	ORM-A	None	173.505	173.655	25 pounds	300 pounds	1,2	1,2	Segregation same as for flammable solids
*	*Naphtha petroleum. See* *Petroleum naphtha									
*	Naphtha, solvent	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
*	Naphtha, solvent	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Natural gasoline. See Gasoline									
	Neohexane	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,3	4	
*	Neon	Nonflammable gas	Nonflammable gas	173.306	173.302	150 pounds	300 pounds	1,2	1,2	
	New explosive or explosive device			173.51	173.86					
	Nickel carbonyl	Flammable liquid	Flammable liquid and Poison	None	173.126	Forbidden	Forbidden	1	5	Not permitted on a vessel carrying explosives. Shade from radiant heat. Segregation same as for flammable liquids 1a *
	Nickel catalyst, wet, *finely divided, activated, or spent. With not less than 40% water or other suitable liquid*	Flammable solid	Flammable solid	None	173.233	Forbidden	100 pounds	1,2	1	Separate from flammable gases or liquids, oxidizing materials, or organic peroxides
	Nickel cyanide, solid	Poison B	Poison	173.370		25 pounds	200 pounds	1,2	1,2	Stow away from acids
	Nicotine hydrochloride	Poison B	Poison	173.345	173.346	1 quart	55 gallons	1,2	1,2	
	Nicotine, liquid	Poison B	Poison	None	173.358	Forbidden	55 gallons	1,2	1,2	
	Nicotine salicylate	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
*	Nicotine sulfate, liquid	Poison B	Poison	173.345	173.346	1 quart	55 gallons	1,2	1,2	
	Nicotine sulfate, solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	

§ 172.101 Hazardous Materials Table—(Continued)

(1)	(2)	(3)	(4)	(5) Packaging		(6) Maximum net quantity in one package		(7) Water shipments		
*/ W/ A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Nicotine tartrate	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
	Nitrate of ammonia explosives. See High explosive									
*	Nitrate, n.o.s.	Oxidizer	Oxidizer	173.153	173.182	25 pounds	100 pounds	1,2	1,2	
	Nitrating (*mixed*) acid	Oxidizer	Oxidizer	None	173.267	Forbidden	1 quart	1	5	Segregation same as for corrosive materials
	Nitrating (*mixed*) acid, spent	Corrosive material	Corrosive	None	173.248	Forbidden	1 quart	1	5	
	Nitric acid (*over 40%*)	Oxidizer	Oxidizer and Corrosive	None	173.268	Forbidden	5 pints	1	5	Segregation same as for corrosive materials. Stow away from hydrazine, separate from diethylenetriamine
	Nitric acid, fuming	Oxidizer	Oxidizer and Poison	None	173.268	Forbidden	Forbidden	1	5	Segregation same as for corrosive materials. Stow away from hydrazine, separate from diethylenetriamine
	Nitric acid, 40% or less	Corrosive material	Corrosive	None	173.268	Forbidden	5 pints	1	5	Stow away from hydrazine, separate from diethylenetriamine
	Nitric ether. See Ethyl nitrate									
	Nitric oxide	Poison A	Poison gas	None	173.337	Forbidden	Forbidden	1	5	
	Nitroaniline	Poison B	Poison	173.364	173.373	50 pounds	200 pounds	1,2	1,2	
	p-Nitroaniline. *See* Nitroaniline									
	Nitrobenzol, liquid (*oil of mirbane, nitrobenzene*)	Poison B	Poison	173.345	173.346	1 quart	55 gallons	1,2	1,2	
	Nitro carbo nitrate	Oxidizer	Oxidizer	173.153	173.182	25 pounds	100 pounds	1,2	1,2	
	Nitrocellulose, colloided, granular *or* flake, wet with not less than 20% alcohol *or* solvent, *or* block, wet with not less than 25% alcohol	Flammable liquid	Flammable liquid	173.118	173.127	1 quart	25 pounds	1,3	1	
	Nitrocellulose, colloided, granular *or* flake, wet with not less than 20% water	Flammable solid	Flammable solid	173.153	173.184	25 pounds	100 pounds	1,3	1	
	Nitrocellulose, dry. See High explosive									
	Nitrocellulose flakes, wet with not less than 20% alcohol *or* solvent	Flammable liquid	Flammable liquid	173.118	173.127	1 quart	25 pounds	1,3	1	
	Nitrocellulose, wet with not less than 30% alcohol *or* solvent	Flammable liquid	Flammable liquid	173.118	173.127	1 quart	25 pounds	1,3	1	
	Nitrocellulose, wet with not less than 20% water	Flammable solid	Flammable solid	173.153	173.184	25 pounds	100 pounds	1,3	1	
	Nitrochlorobenzene, ortho, liquid	Poison B	Poison	173.345	173.346	1 quart	55 gallons	1,2	1,2	
	Nitrochlorobenzene, meta *or* para, solid	Poison B	Poison	173.364	173.374	50 pounds	200 pounds	1,2	1,2	
*	Nitrogen	Nonflammable gas	Nonflammable gas	173.306	173.302 173.314	150 pounds	300 pounds	1,2	1,2	
*	Nitrogen, cryogenic liquid *or* pressurized Liquid	Nonflammable gas	Nonflammable gas	None	173.304	Forbidden	300 pounds	1,3	1,3	
	Nitrogen dioxide, liquid	Poison A	Oxidizer and Poison gas	None	173.336	Forbidden	Forbidden	1	5	Segregation same as for nonflammable gases. Stow away from organic materials
*	Nitrogen fertilizer solution	Nonflammable gas	Nonflammable gas	173.306	173.304 173.314	150 pounds	300 pounds	1,3	1,3	
	Nitrogen peroxide, liquid	Poison A	Oxidizer and Poison gas	None	173.336	Forbidden	Forbidden	1	5	Segregation same as for nonflammable gas. Stow away from organic materials
	Nitrogen tetroxide, liquid	Poison A	Oxidizer and Poison gas	None	173.336	Forbidden	Forbidden	1	5	Segregation same as for nonflammable gases. Stow away from organic materials
	Nitrogen tetroxide-nitric oxide mixture, *containing up to 33.2% by weight nitric oxide*	Poison A	Oxidizer and Poison gas	None	173.338	Forbidden	Forbidden	1	5	Segregation same as for nonflammable gases. Stow away from organic materials
	Nitroglycerin, liquid, desensitized. See High explosive, liquid									
	Nitroglycerin, liquid, undesensitized See 173.51	Forbidden								
	Nitroglycerin, spirits of. See Spirits of nitroglycerin									
	Nitroguanidine, dry. See High explosive									
	Nitroguanidine, wet with not less than 20% water	Flammable solid	Flammable solid	173.153	173.184	25 pounds	100 pounds	1,2	4	
	Nitrohydrochloric acid	Corrosive material	Corrosive	None	173.278	Forbidden	5 pints	1	5	
*	Nitrohydrochloric acid, diluted	Corrosive material	Corrosive	None	173.278	Forbidden	5 pints	1	5	
	Nitromannite. See High explosive									
	Nitromethane	Flammable liquid	Flammable liquid	173.118	173.149a	1 quart	10 gallons	1,2	1,2	
	Nitromuriatic acid. *See* Nitrohydrochloric acid									

§ 172.101 Hazardous Materials Table—(Continued)

(1)	(2)	(3)	(4)	(5)		(6)		(7)		
				Packaging		Maximum net quantity in one package		Water shipments		
*/ W/ A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific require-ments	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Pas-senger vessel	(c) Other requirements
	Nitrosoguanidine. *See* Initiating explosive									
	Nitrostarch, dry. *See* High explosive									
	Nitrostarch, wet with not less than 30% alcohol *or* solvent	Flammable liquid	Flammable liquid	173.118	173.127	1 quart	25 pounds	1,2	1	
	Nitrostarch, wet with not less than 20% water	Flammable solid	Flammable solid	173.153	173.184	25 pounds	100 pounds	1	4	
	Nitrosyl chloride	Nonflamma-ble gas	Nonflamma-ble gas	173.306	173.304 173.314	Forbid-den	300 pounds	1	4	
	Nitrourea. See High explosive									
	Nitrous oxide	Nonflamma-ble gas	Nonflamma-ble gas	173.306	173.304 173.315	150 pounds	300 pounds	1,2	1,2	Under deck stowage must be in well-ventilated space
	Nitroxylol	Poison B	Poison	173.345	173.346	1 quart	55 gallons	1,2	1	
	Nonflammable gas n.o.s. *See* Compressed Gas, n.o.s.									
*	Nonliquefied hydrocarbon gas	Flammable gas	Flammable gas	173.306	173.302	Forbid-den	300 pounds	1,2	1	
	Nonyl trichlorosilane	Corrosive material	Corrosive	None	173.280	Forbid-den	10 gallons	1	1	Keep dry
	Nordhausen acid. *See* Sulfuric acid									
W	Oakum	ORM-C	None	173.505	173.1030			1,2	1,2	
	Octadecyltrichlorosilane	Corrosive material	Corrosive	None	173.280	Forbid-den	10 gallons	1	1	Keep dry
	Octane	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Octyl trichlorosilane	Corrosive material	Corrosive	None	173.280	Forbid-den	10 gallons	1	1	Keep dry
*	Oil, *described as oil*, n.o.s., petroleum oil, *or* petroleum oil, n.o.s.	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
*	Oil, *described as oil*, oil, n.o.s., petroleum oil, *or* petroleum oil, n.o.s.	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Oiled clothing (*manufactured article properly dried to prevent spontaneous heating*). *See* Oiled material									
AW	Oiled material (*manufactured article properly dried to prevent spontaneous heating*)	ORM-C	None	173.505	173.1035	No limit	No limit	1,3	1,3	
	Oiled paper (*manufactured article properly dried to prevent spontaneous heating*). *See* Oiled material									
	Oil of mirbane. See Nitrobenzol, liquid									
	Oil of vitriol. See Sulfuric acid									
	Oil well cartridge	Class C explosive	Class C explosive	None	173.112	50 pounds	150 pounds	1,3	1,3	
	Oleum (*sulfuric acid fuming*)	Corrosive material	Corrosive	None	173.272	Forbid-den	5 pints	1,2	1	Under deck stowage must be in metal drums only. Keep dry
*	Organic peroxide, liquid, *or* solution, n.o.s.	Organic peroxide	Organic peroxide	173.153	173.221	Forbid-den	1 quart	1,2	1,2	Stow separate from combustible materials, explosives, or acids.
*	Organic peroxide, solid, n.o.s.	Organic peroxide	Organic peroxide	173.153	173.154	Forbid-den	25 pounds	1,2	1,2	Stow separate from combustible materials, explosives, or acids.
*	Organic Peroxide liquid *or* solution, n.o.s.	Flammable liquid	Organic peroxide and flammable liquid	None	173.119	Forbid-den	1 quart	1,2	5	Stow separate from combustible materials, explosives, or acids
*	Organic phosphate compound mixture, dry	Poison B	Poison	173.377	173.377	50 pounds	200 pounds	1,2	4	
*	Organic phosphate compound mixture, liquid	Poison B	Poison	None	173.359	Forbid-den	1 quart	1,2	5	
	Organic phosphate, liquid	Poison B	Poison	None	173.358	Forbid-den	1 quart	1,2	5	
*	Organic phosphate, mixed with compressed gas	Poison A	Poison gas	None	173.334	Forbid-den	Forbid-den	1	5	Shade from radiant heat
*	Organic phosphorus compound, liquid, *or* Organic phosphate, liquid	Poison B	Poison	None	173.358	Forbid-den	1 quart	1,2	5	
*	Organic phosphorus compound, solid, *or* Organic phosphate compound dry, n.o.s.	Poison B	Poison	None	173.377	Forbid-den	200 pounds	1,2	4	
*	Organic phosphorus compound mixture, liquid, *or* Organic phosphate compound mixture, liquid	Poison B	Poison	173.359	173.359	1/2 pint	1 quart	1,2	5	
*	Organic phosphorus compound mixture, dry, *or* Organic phosphate compound mixture, dry	Poison B	Poison	173.377	173.377	50 pounds	200 pounds	1,2	4	
AW	ORM-A n.o.s.	ORM-A	None	173.505	173.510	No limit	No limit			
AW	ORM-B n.o.s.	ORM-B	None	173.505	173.510	No limit	No limit			
	ORM-C. See 173.500 & 176.900									
	Orthonitroaniline. *See* Nitroaniline									
	Oxidizer, *or* Oxidizing material, n.o.s.	Oxidizer	Oxidizer	173.153	173.154	25 pounds	25 pounds	1,2	1,2	
	Oxidizer material packed with other articles See 173.152									

§ 172.101 **Hazardous Materials Table—(Continued)**

(1)	(2)	(3)	(4)	(5)		(6)		(7)		
				Packaging		Maximum net quantity in one package		Water shipments		
*/W/A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
*	Oxygen	Nonflammable gas	Oxidizer	173.306	173.302 173.314	150 pounds	300 pounds	1,2	1,2	Under deck stowage must be in well ventilated space
*	Oxygen, pressurized liquid	Nonflammable gas	Oxidizer	None	173.304	Forbidden	Forbidden	1,3	1,3	Stow separate from acetylene. Do not overstow with other cargo
*	Paint drier, liquid	Combustible liquid	None	173.118a	None	No limit	No limit	1,3	1,2	
*	Paint drier, liquid	Flammable liquid	Flammable liquid	173.118	173.128	1 quart	55 gallons	1,2	1	
*	Paint, enamel, lacquer, stain, shellac, *or* varnish; aluminum, bronze, gold, wood filler, liquid *or* lacquer base, liquid	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
*	Paint, enamel, lacquer, stain, shellac, *or* varnish; aluminum, bronze, gold, wood filler, liquid, *or* lacquer base, liquid	Flammable liquid	Flammable liquid	173.118	173.128	1 quart	55 gallons	1,2	1	
*	*Paint, reducing or thinning compound. See* *Compound, lacquer, paint, *or* varnish, reducing *or* thinning liquid, etc.									
	Paper caps. See Toy caps									
W	Paper scrap (*when dry, clean, and free from oil*)	ORM-C	None	173.505	173.1075			1,2	1,2	
	Paper stock, wet	Flammable solid	Flammable solid	None	173.185	Forbidden	Forbidden	1,2	1,2	Separate from flammable gases or liquids, oxidizing materials, or organic peroxides
	Paper waste (*when dry, clean, and free from oil*). *See* Paper scrap									
	Paper waste, wet. *See* Waste paper, wet									
	Paramenthane hydroperoxide	Organic peroxide	Organic peroxide	173.153	173.224	1 quart	1 quart	1,2	4	
	Paranitroaniline, solid. *See* Nitroaniline									
	Parathion and compressed gas mixture	Poison A	Poison gas	None	173.334	Forbidden	Forbidden	1,3	5	
	Parathion, liquid	Poison B	Poison	None	173.358	Forbidden	1 quart	1,3		
*	Parathion mixture, dry	Poison B	Poison	173.377	173.377	50 pounds	200 pounds	1,3	1,3	
	Parathion mixture, liquid	Poison B	Poison	None	173.359	Forbidden	1 quart	1,3	1,3	
	Paris green, solid. *See* Copper acetoarsenite, solid									
	Pentaborane	Flammable liquid	Poison and flammable liquid	None	173.138	Forbidden	Forbidden	1	5	Segregation same as for flammable solids. Separate from flammable gases or liquids, oxidizing materials, or organic peroxides
	Pentaerythrite tetranitrate. See Initiating explosive									
	Pentaerythrite tetranitrate, desensitized, wet. See High explosive									
	Pentane	Flammable liquid	Flammable liquid	173.118	173.119	Forbidden	10 gallons	1,3	4	
	Pentolite, dry. See High explosive									
	Peracetic acid solution, *not over 40% peracetic acid and not over 6% hydrogen peroxide*	Organic peroxide	Organic peroxide	173.223	173.223	1 pint	5 pints	1	4	Shade from radiant heat
*	Perchlorate, n.o.s.	Oxidizer	Oxidizer	173.153	173.154	25 pounds	100 pounds	1,3	1,3	Stow away from powdered metals
	Perchloric acid, *exceeding 50% but* not exceeding 72% strength	Oxidizer	Oxidizer	None	173.269	Forbidden	5 pints	1	5	Segregation same as for corrosive materials. Stow away from hydrazine
	Perchloric acid exceeding 72% strength	Forbidden								
*	Perchloric acid, not over 50% acid	Oxidizer	Oxidizer	173.244	173.269	Forbidden	5 pints	1	1	Segregation same as for corrosive materials. Stow away from hydrazine
	Perchloro-methyl-mercaptan	Poison B	Poison	173.345	173.360	Forbidden	10 pounds	1	4	
	Percussion cap	Class C explosive	Explosive C	None	173.107	50 pounds	150 pounds	1,3	1,3	
	Percussion fuze	Class C explosive	Explosive C	None	173.105	50 pounds	150 pounds	1,3	1,3	
A	Perfluoro-2-butene	ORM-A	None	173.505	173.510 173.605	10 gallons	55 gallons			
*	Permanganate, n.o.s.	Oxidizer	Oxidizer	173.153	173.154	25 pounds	100 pounds	1,2	1,2	Separate from ammonium compounds, hydrogen peroxide, and acids
	Permanganate of potash. See Potassium permanganate									
*	Peroxide, organic *See* Organic Peroxide									
W	Pesticide, water reactive, *including but not limited to fungicides, and herbicides, etc., which contain manganese ethylenebisdithio carbamate*	ORM-C	None	173.505	173.1040			2	2	Keep dry
W	Petroleum coke (*uncalcined*)	ORM-C	None	173.505	173.1045			1,2	1,2	Not permitted if temperature of material is at or above 130 deg F.
	Petroleum crude. See Crude oil									

§ 172.101 Hazardous Materials Table—(Continued)

(1)	(2)	(3)	(4)	(5)		(6)		(7)		
				Packaging		Maximum net quantity in one package		Water shipments		
*/W/A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
*	Petroleum distillate	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
*	Petroleum distillate	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,3	4	
	Petroleum ether	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,3	4	
	Petroleum gas, liquefied. See Liquefied petroleum gas									
*	Petroleum naphtha	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
*	Petroleum naphtha	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
A	Phencapton	ORM-A	None	173.505	173.510	No limit	No limit			
	Phenol. *See* Carbolic acid									
	Phenyl dichloro arsine	Poison B	Poison	None	173.355	Forbidden	30 gallons	1	5	
A	Phenylenediamine, meta or para, solid	ORM-A	None	173.505	173.510	No limit	No limit			
	Phenyl trichlorosilane	Corrosive material	Corrosive	None	173.280	Forbidden	10 gallons	1	1	Keep dry
	Phosgene (diphosgene)	Poison A	Poison gas	None	173.333	Forbidden	Forbidden	1	5	
	Phosphine	Poison A	Flammable gas and Poison gas	None	173.328	Forbidden	Forbidden	1	5	
*	Phosphoric acid *or* Phosphoric Acid Solution	Corrosive material	Corrosive	173.244	173.245	1 quart	10 gallons	1,2	1,2	Glass carboys in hampers not permitted under deck
	Phosphoric acid triethyleneimine. *See* Tris-(1-aziridinyl phosphine oxide)									
	Phosphoric anhydride (*phosphorus pentoxide*)	Corrosive material	Corrosive	None	173.188	Forbidden	100 pounds	1,2	1,2	Keep dry. Glass bottles not permitted under deck
	Phosphorus, amorphous, red	Flammable solid	Flammable solid	None	173.189	Forbidden	11 pounds	1,2	1,2	
	Phosphorus bromide. *See* Phosphorus tribromide									
	Phosphorus chloride. *See* Phosphorus trichloride									
	Phosphorus heptasulfide	Flammable solid	Flammable solid	None	173.225	Forbidden	10 pounds	1,2	1	Separate from oxidizing materials
	Phosphorus oxybromide	Corrosive material	Corrosive	None	173.271	Forbidden	1 quart	1	1	Keep dry. Glass carboys not permitted on passenger vessels
	Phosphorus oxychloride	Corrosive material	Corrosive	None	173.271	Forbidden	1 quart	1	1	Keep dry. Glass carboys not permitted on passenger vessels
	Phosphorus pentachloride, solid	Corrosive material	Corrosive	None	173.191	Forbidden	5 pounds	1	1	Keep dry
	Phosphorus pentasulfide	Flammable solid	Flammable solid, and Dangerous when wet	None	173.225	Forbidden	11 pounds	1,2	1,2	Separate from oxidizing material
	Phosphorus sesquisulfide	Flammable solid	Flammable solid, and Dangerous when wet	None	173.225	Forbidden	11 pounds	1,2	1	Separate from oxidizing materials
	Phosphorus tribromide	Corrosive material	Corrosive	None	173.270	Forbidden	1 quart	1	1	Keep dry. Glass carboys not permitted on passenger vessels
	Phosphorus trichloride	Corrosive material	Corrosive	None	173.271	Forbidden	1 quart	1	1	Keep dry. Glass carboys not permitted on passenger vessels
	Phosphorus trisulfide	Flammable solid	Flammable solid	None	173.225	Forbidden	10 pounds	1,2	1	Separate from oxidizing materials
	Phosphorus, white *or* yellow, dry	Flammable solid	Flammable solid and Poison	None	173.190	Forbidden	Forbidden	1,2	5	Separate from flammable gases or liquids, oxidizing materials, or organic peroxides
	Phosphorus, white *or* yellow, in water	Flammable solid	Flammable solid and Poison	None	173.190	Forbidden	25 pounds	1,2	5	Separate from flammable gases or liquids, oxidizing materials or organic peroxides
	Phosphoryl chloride. *See* Phosphorus oxychloride									
	Photographic film. See Film									
	Photographic flash powder. See Fireworks, special *or* Low explosives									
	Picrate, dry. See High explosive									
	Picrate of ammonia. See High explosive									
	Picric acid, dry. See High explosive									
	Picric acid, wet, with not less than 10% water	Flammable solid	Flammable solid	None	173.192 173.193	1 pound	25 pounds	1	5	Under deck stowage permitted on cargo vessels if wet with more than 30% water. Stow away from heavy metals and their compounds
	Picric acid, wet with not less than 10% water, over 25 pounds. See High explosive									
	Pine oil	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	

§ 172.101 Hazardous Materials Table—(Continued)

(1)	(2)	(3)	(4)	(5) Packaging		(6) Maximum net quantity in one package		(7) Water shipments		
*/ W/ A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Pinwheels. *See* **Fireworks, common**									
	Pivaloyl chloride. *See* **Trimethyl acetylchloride**									
•	**Plastic solvent, n.o.s.**	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
•	**Plastic solvent, n.o.s.**	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
•	**Plutoniumnitrate solution**	Radioactive material	Radioactive (See Sec. 172.403)	173.393	173.396			1,2	1,2	
	Poisonous liquid, n.o.s. *or* **Poison B, liquid, n.o.s.**	Poison B	Poison	173.345	173.346	1 quart	55 gallons	1,2	1	
	Poisonous liquid *or* **gas, n.o.s.**	Poison A	Poison gas	None	173.328	Forbidden	Forbidden	1	5	
	Poisonous solid, n.o.s. *or* **Poison B, solid, n.o.s.**	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1	
•	**Polish, metal, stove, furniture** *or* **wood, liquid**	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
•	**Polish, metal, stove, furniture** *or* **wood, liquid**	Flammable liquid	Flammable liquid	173.118	173.129	1 quart	55 gallons	1,2	1	
•	***Polymerizable material***			173.21						
	Potassium arsenate, solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
	Potassium arsenite, solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
•	**Potassium bifluoride solution.** *See* ***Potassium hydrogen fluoride solution**									
	Potassium bromate	Oxidizer	Oxidizer	173.153	173.154	25 pounds	100 pounds	1,2	1,2	Separate from ammonium compounds. Stow away from powdered metals
	Potassium chlorate (*potash chlorate*)	Oxidizer	Oxidizer	173.153	173.163	25 pounds	100 pounds	1,2	1,2	Separate from ammonium compounds. Stow away from powdered metals
	Potassium cyanide, solid	Poison B	Poison	173.370		25 pounds	200 pounds	1,2	1,2	Stow away from acids
•	**Potassium cyanide solution**	Poison B	Poison	173.345	173.352	1 quart	55 gallons	1,2	1,2	Stow away from acids
	Potassium dichloro isocyanurate. See **Potassium dichloro-s-triazinetrione**									
	Potassium dichloro-s-triazinetrione, ***dry (containing more than 39% available chlorine)***	Oxidizer	Oxidizer	173.153	173.217	50 pounds	100 pounds	1,2	1,2	
A	**Potassium dichromate**	ORM-A	None	173.505	173.510	No limit	No limit			
A	**Potassium fluoride**	ORM-B	None	173.505	173.510	No limit	No limit			
•	**Potassium fluoride solution**	Corrosive material	Corrosive	173.244	173.249	1 quart	5 gallons	1,2	1,2	
	Potassium hydrate. *See* **Caustic potash, dry, etc.**									
•	**Potassium hydrogen fluoride solution**	Corrosive material	Corrosive	173.244	173.249	1 quart	5 gallons	1,2	1,2	
A	**Potassium hydrogen sulfate, solid**	ORM-B	None	173.505	173.510 173.800	25 pounds	100 pounds			
	Potassium hydroxide, dry solid, flake, bead, *or* **granular**	Corrosive material	Corrosive	173.244	173.245b	25 pounds	100 pounds	1,2	1,2	Keep dry. Do not stow with metals or alloys such as brass, copper, tin, zinc, aluminum, solder, or lead
•	**Potassium hydroxide, liquid** *or* **solution**	Corrosive material	Corrosive	173.244	173.249	1 quart	10 gallons	1,2	1,2	
•	**Potassium hypochlorite solution.** *See* **Hypochlorite solutions containing more than 7% available chlorine by weight**									
A	**Potassium metabisulfite**	ORM-B	None	173.505	173.510	No limit	No limit			
	Potassium, metal	Flammable solid	Flammable solid and Dangerous when wet	None	173.206	Forbidden	25 pounds	1,2	5	Segregation same as for flammable solids labeled Dangerous When Wet
	Potassium, metal liquid alloy	Flammable solid	Flammable solid and Dangerous when wet	None	173.202	Forbidden	1 pound	1,2	5	Segregation same as for flammable soilds labeled Dangerous When Wet
	Potassium nitrate	Oxidizer	Oxidizer	173.153	173.182	25 pounds	100 pounds	1,2	1,2	
	Potassium nitrite	Oxidizer	Oxidizer	173.153	173.154	25 pounds	100 pounds	1,2	1,2	Separate from ammonium compounds and cyanides. Stow away from foodstuffs
	Potassium nitrate mixed (*fused*) with sodium nitrite	Oxidizer	Oxidizer	173.153	173.183	25 pounds	100 pounds	1,2	1,2	Separate from ammonium compounds and cyanides. Stow away from foodstuffs
	Potassium perchlorate	Oxidizer	Oxidizer	173.153	173.219	25 pounds	100 pounds	1,3	1,3	Stow away from powdered metals
	Potassium permanganate	Oxidizer	Oxidizer	173.153	173.154 173.194	25 pounds	100 pounds	1,2	1,2	Separate from ammonium compounds and hydrogen peroxide
	Potassium peroxide	Oxidizer	Oxidizer	None	173.154	Forbidden	100 pounds	1,2	1,2	Keep dry

(1)	(2)	(3)	(4)	(5) Packaging		(6) Maximum net quantity in one package		(7) Water shipments		
*/W/A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Potassium sulfide	Flammable solid	Flammable solid	173.153	173.207	25 pounds	300 pounds	1,2	1,2	Separate from liquid acids, flammable gases or liquids, oxidizing materials or organic peroxides
	Pressurized product. See Compressed gas, n.o.s.									
	Primer. See Cannon primer, combination primer, or small-arm primer									
	Primer, detonating. See Detonating primer									
	Projectile, explosive. See Explosive projectile									
	Projectile, gas, nonexplosive. See Chemical ammunition, containing Poison or Irritating Material									
	Projectile, gas, smoke, or incendiary, with burster or booster with or without detonating fuze. See Explosive projectile									
	Projectile, illuminating, incendiary or smoke, with expelling charge but without bursting charge. See Fireworks, special									
	Projectile, sand-loaded, empty or solid See 173.55									
	Propane *or* Liquefied petroleum gas. *See* Liquefied petroleum gas									
*	Propellant explosive	Class A explosive	Explosive A	None	173.64	Forbidden	Forbidden	6	5	
	Propellant explosive (*solid, Class B, and small-arms primer*) *See* *Propellant explosive, solid									
	Propellant explosive in water (*Smokeless powder*)	Class B explosive	Explosive B	None	173.93	Forbidden	Forbidden	1,3	5	Magazine stowage authorized
	Propellant explosive in water, unstable, condemned, *or* deteriorated (*smokeless powder*)	Class B explosive	Explosive B	None	173.93	Forbidden	Forbidden	1,3	5	Magazine stowage authorized
*	Propellant explosive, liquid	Class B explosive	Explosive B	None	173.93	Forbidden	10 pounds	1,2	5	Magazine stowage authorized
*	Propellant explosive, solid	Class B explosive	Explosive B	None	173.93	Forbidden	10 pounds	1,3	5	Magazine stowage authorized
	Propionaldehyde	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Propionic acid	Corrosive material	Corrosive	173.244	173.245	1 quart	5 gallons	1,2	1,2	Separated by a complete compartment or hold from organic peroxides
*	Propionic acid solution	Corrosive material	Corrosive	173.244	173.245	1 quart	10 gallons	1,2	1,2	Separated by a complete compartment or hold from organic peroxides
	Propionic anhydride	Corrosive material	Corrosive	173.244	173.245	1 quart	1 quart	1,2	1	Keep dry
	Propyl acetate	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Propyl alcohol. *See* Alcohol, n.o.s.									
	Propylamine	Flammable liquid	Flammable liquid	None	173.119	Forbidden	10 gallons	1,3	5	
	Propyl chloride	Flammable liquid	Flammable liquid	None	173.119	Forbidden	10 gallons	1,3	5	
	Propylene diamine	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Propylene dichloride	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Propylene imine, inhibited	Flammable liquid	Flammable liquid	None	173.139	Forbidden	5 pints	1,2	1	
	Propylene *or* Liquefied petroleum gas. *See* Liquefied petroleum gas									
	Propylene oxide	Flammable liquid	Flammable liquid	173.118	173.119	Forbidden	1 gallon	1,3	4	
	Propyl formate	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Propyl mercaptan	Flammable liquid	Flammable liquid	None	173.141	Forbidden	10 gallons	1,2	5	
	Propyl trichlorosilane	Corrosive material	Corrosive	None	173.280	Forbidden	10 gallons	1	1	Keep dry
	Prussic acid. See Hydrocyanic acid (*prussic*), liquid *or* unstabilized									
	Pyridine	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Pyrophoric liquid, *or* Pyroforic liquids, n.o.s.	Flammable liquid	Flammable liquid	None	173.134	Forbidden	Forbidden	1	5	Shade from radiant heat. Separate from flammable gases or liquids, oxidizing materials, or organic peroxides
	Pyro sulfuryl chloride	Corrosive material	Corrosive	173.244	173.247	1 quart	1 quart	1	4	Keep dry. Glass carboys not permitted on passenger vessels
	Pyroxylin plastic scrap	Flammable solid	Flammable solid	None	173.195	Forbidden	Forbidden	1	5	Shade from radiant heat

§ 172.101 Hazardous Materials Table—(Continued)

(1)	(2)	(3)	(4)	(5)		(6)		(7)		
				Packaging		Maximum net quantity in one package		Water shipments		
*/ W/ A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Pyroxylin plastics, rods, sheets, rolls, or tubes	Flammable solid	Flammable solid	173.197		50 pounds	350 pounds	1,3	1	
•	Pyroxylin solution	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
•	Pyroxylin solution	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
•	Pyroxylin solvent, n.o.s.	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
•	Pyroxylin solvent, n.o.s.	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Pyrrolidine	Flammable liquid	Flammable liquid	173.118	173.119	Forbidden	10 gallons	1,2	1	
	Quicklime. *See* Calcium oxide									
	Radioactive device, n.o.s.	Radioactive material	None	173.391				1,2	1,2	
•	Radioactive material, fissile, n.o.s.	Radioactive material	Radioactive	173.393	173.396			1,2	1,2	
•	Radioactive material, low specific activity *or* LSA, n.o.s.	Radioactive material	Radioactive	173.392	173.393			1,2	1,2	
•	Radioactive material, n.o.s.	Radioactive material	Radioactive	173.393	173.395			1,2	1,2	
•	Radioactive material, limited quantity, n.o.s.	Radioactive material	None	173.391				1,2	1,2	
•	Radioactive material, special form, n.o.s.	Radioactive material	Radioactive	173.393	173.394			1,2	1,2	
	Rags, oily	Flammable solid	Flammable solid	None	173.199	Forbidden	Forbidden	1,2	1,2	Keep dry. Separate from flammable gases or liquids, oxidizing materials, or organic peroxides
	Rags, wet	Flammable solid	Flammable solid	None	173.200	Forbidden	Forbidden	1	1	Separate from flammable gases or liquids, oxidizing materials, or organic peroxides
	Railway Fusee. See Fusee									
	Railway torpedo. *See* Torpedo, railway									
	Range oil. *See* Fuel oil									
•	*Reducing compound, paint, varnish, lacquer, etc. See* *Compound, lacquer, paint, *or* varnish, etc., removing, reducing, *or* thinning, liquid									
	Refrigerant gas *See* Dispersant Gas									
•	Refrigerating machine	Nonflammable gas	Nonflammable gas	173.306				1,3	1,3	
•	Refrigerating machine	Flammable gas	Flammable gas	173.306				1,3	1,3	
•	Refrigerating machine	Flammable liquid	Flammable liquid	173.130	173.306			1,2	1	
•	*Removing compound, paint, varnish, lacquer, etc., See* *Compound, lacquer, paint, *or* varnish, etc., removing reducing, *or* thinning, liquid									
•	Resin solution (*resin compound, liquid*)	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
	Resin solution (*resin compound, liquid*)	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	55 gallons	1,2	1	
	Rifle grenade. See Grenade, hand or rifle, explosive									
	Rifle powder. See *Propellant explosive, or Black powder									
	Road asphalt *or* tar (*when heated to or above its flash point*). *See* Asphalt									
	Road asphalt *or* tar, liquid. *See* Asphalt, cut back									
•	Road oil	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
	Rocket ammunition with empty projectile	Class B explosive	Explosive B	None	173.90	Forbidden	Forbidden	1,3	5	
	Rocket ammunition with explosive projectile	Class A explosive	Explosive A	None	173.57	Forbidden	Forbidden	6	5	
	Rocket ammunition with gas projectile	Class A explosive	Explosive A	None	173.57	Forbidden	Forbidden	6	5	
	Rocket ammunition with illuminating projectile	Class A explosive	Explosive A	None	173.57	Forbidden	Forbidden	6	5	
	Rocket ammunition with incendiary projectile	Class A explosive	Explosive A	None	173.57	Forbidden	Forbidden	6	5	
	Rocket ammunition with inert loaded projectile	Class B explosive	Explosive B	None	173.90	Forbidden	Forbidden	1,3	5	
	Rocket ammunition with smoke projectile	Class A explosive	Explosive A	None	173.57	Forbidden	Forbidden	6	5	
	Rocket ammunition with solid projectile	Class B explosive	Explosive B	None	173.90	Forbidden	Forbidden	1,3	5	

(1)	(2)	(3)	(4)	(5)		(6)		(7)		
				Packaging		Maximum net quantity in one package		Water shipments		
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	Rocket body, with electric primer or electric squib. See 173.55									
	Rocket engine, liquid	Class B explosive	Explosive B	None	173.95	Forbidden	Forbidden	1,2	5	Magazine stowage authorized
	Rocket fireworks. See Fireworks, common									
	Rocket head. *See* Explosive projectile									
•	Rocket motor	Class A explosive	Explosive A	None	173.79	Forbidden	Forbidden	6	5	
•	Rocket motor	Class B explosive	Explosive B	None	173.92	Forbidden	550 pounds	1,3	5	
	Roman candle. See Fireworks, common									
W	Rosin (*colaphony*) or Resin	ORM-C	None	173.505	173.1060			1,2	1,2	
•	Rough ammoniate tankage (*less than* 7% *moisture content*)	Flammable solid	Flammable solid	None	173.210	Forbidden	Forbidden	1	5	
•	Rough ammoniate tankage 7% or more moisture content	Flammable solid	Flammable solid	None	173.210	Forbidden	Forbidden	1,2	1,2	Separate from flammable gases or liquids, oxidizing materials, or organic peroxides. Temperature of tankage must not exceed 100 deg F.
W	Rubber curing compound (*solid*)	ORM-C	None	173.505	173.1065			1,2	1,2	
	Rubber scrap or rubber buffings	Flammable solid	Flammable solid	173.153	173.201	10 pounds	10 pounds	1,2	1,2	
•	Rubber shoddy, regenerated rubber, *or* reclaimed	Flammable solid	Flammable solid	173.153	173.201	10 pounds	10 pounds	1,2	1,2	
	Rubidium metal	Flammable solid	Flammable solid and Dangerous when wet	None	173.206	Forbidden	25 pounds	1,2	5	Segregation same as for flammable solid labeled Dangerous when wet
	Rubidium metal, in cartridges	Flammable solid	Flammable solid and Dangerous when wet	173.206		1 pound.	25 pounds	1,2	4	Segregation same as for flammable solid labeled Dangerous when wet
	Rum, denatured	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
•	Rust preventive coating	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
	Safety fuse. *See* Fuse, safety									
	Safety squib	Class C explosive	Explosive C	None	173.106	50 pounds	150 pounds	1,3	1,3	
	Salute. See Fireworks common *or* special									
	Sand acid. *See* Hydrofluorosilicic acid									
W	Sawdust (*when dry, clean, and free from oil*)	ORM-C	None	173.505	173.1070			1,2	1,2	Keep dry
	Selenic acid, liquid	Corrosive material	Corrosive	None	173.245	Forbidden	5 pints	1,2	1,2	
	Self-lighting cigarette	Flammable solid	Flammable solid	173.21		Forbidden	Forbidden	1,2	1,2	Keep dry
	Self propelled vehicle *See* Motor vehicle									
	Shaped charge, commercial. See High explosive 173.65(h)									
	Shellac. See *Paint, enamel, lacquer, stain, shellac, varnish, etc.									
	Shell, fireworks. *See* Fireworks, common *or* special									
	Ship, distress signal. See Fireworks, special									
	Signal flare	Class C explosive	Explosive C	None	173.108	50 pounds	200 pounds	1,2	1,2	
	Silicofluoric acid. *See* Hydrofluorosilicic acid									
	Silicon chloride *or* silicon tetrachloride	Corrosive material	Corrosive	173.244	173.247	1 quart	1 gallon	1	1	Keep dry. Glass carboys not permitted on passenger vessels
	Silicon chrome, exothermic. See Exothermic silicon chrome									
	Silicon tetrafluoride	Nonflammable gas	Nonflammable gas	173.306	173.302	Forbidden	300 pounds	1	4	Stow away from foodstuffs
	Silver cyanide	Poison B	Poison	173.370		25 pounds	200 pounds	1,2	1,2	Stow away from acids
	Silver nitrate	Oxidizer	Oxidizer	173.153	173.182	25 pounds	100 pounds	1,2	1,2	Stow away from foodstuffs
	Sisal. See Fibers									
•	*Sludge acid. See* Acid, sludge									
	Small arms ammunition	Class C explosive	None	173.101		50 pounds	150 pounds	1,3	1,3	
	Small arms ammunition, irritating (*tear gas*) cartridge	Class C explosive	Irritant	None	173.101	Forbidden	150 pounds	1,3	1,3	
	Small arms primer	Class C explosive	Explosive C	None	173.107	50 pounds	150 pounds	1,3	1,3	
	Smoke candle	Class C explosive	Explosive C	None	173.108	50 pounds	200 pounds	1,3	1,3	

§ 172.101 Hazardous Materials Table—(Continued)

(1)	(2)	(3)	(4)	(5) Packaging		(6) Maximum net quantity in one package		(7) Water shipments		
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	Smoke generator. See Chemical ammunition, Poison A or B Material									
	Smoke grenade	Class C explosive	Explosive C	None	173.108	50 pounds	150 pounds	1,3	1,3	
	Smokeless powder for cannon or small arms. See Propellant explosive, Class A or B									
	Smokeless powder for small arms (*100 pounds or less*)	Flammable solid	Flammable solid	173.88	173.197a	Forbidden	Forbidden	1,3	1,3	Segregation same as for explosives
	Smoke pot	Class C explosive	Explosive C	None	173.108	50 pounds	200 pounds	1,3	1,3	
	Smoke projectile with bursting charge. See Explosive projectile									
	Smoke projectile with expelling charge but without bursting charge. See Fireworks, special									
	Smoke signal	Class C explosive	Explosive C	None	173.108	50 pounds	200 pounds	1,3	1,3	
	Soda amatol. See High explosive									
	Soda lime, solid	Corrosive material	Corrosive	173.244	173.245b	25 pounds	100 pounds	1,2	1,2	Keep dry
A	Sodium aluminate, solid	ORM-B	None	173.505	173.510 173.800	25 pounds	100 pounds			
*	Sodium aluminate solution	Corrosive material	Corrosive	173.244	173.249	1 quart	5 gallons	1,2	1,2	
	Sodium aluminum hydride	Flammable solid	Flammable solid and Dangerous when wet	None	173.206	Forbidden	25 pounds	1,2	5	Segregation same as for flammable solids labeled Dangerous When Wet
	Sodium amide	Flammable solid	Flammable solid and Dangerous When Wet	None	173.206	Forbidden	25 pounds	1,2	5	Segregation same as for flammable solid labeled Dangerous When Wet
	Sodium arsenate	Poison B	Poison	173.364	173.365 173.368	50 pounds	200 pounds	1,2	1,2	
*	Sodium arsenite (*solution*) liquid	Poison B	Poison	173.345	173.346	1 quart	55 gallons	1,2	1,2	
	Sodium azide	Poison B	Poison	173.364	173.375	50 pounds	100 pounds	1,2	1,2	Stow away from heavy metals, especially lead and its compounds. Stow separate from acids
	Sodium bisulfate, solid *or* solution. *See appropriate* Sodium hydrogen sulfate entry									
	Sodium bisulfite, solid. *See* Sodium hydrogen sulfite, solid									
	Sodium bromate	Oxidizer	Oxidizer	173.153	173.154	25 pounds	100 pounds	1,2	1,2	Stow separate from ammonium compounds. Stow away from powdered metals
	Sodium chlorate (*soda chlorate*)	Oxidizer	Oxidizer	173.153	173.163	25 pounds	100 pounds	1,2	1,2	Stow separate from ammonium compounds. Stow away from powdered metals
	Sodium chlorite	Oxidizer	Oxidizer	None	173.160	Forbidden	100 pounds	1,2	1,2	Stow separate from ammonium compounds. Stow away from powdered metals
*	Sodium chlorite solution (*not exceeding 42% sodium chlorite*)	Corrosive material	Corrosive	173.244	173.263	1 quart	4 gallons	1,2	1	Glass carboys in hampers not permitted under deck
	Sodium cyanide, solid	Poison B	Poison	173.370		25 pounds	200 pounds	1,2	1,2	Stow away from acids
*	Sodium cyanide solution	Poison B	Poison	173.345	173.352	1 quart	55 gallons	1,2	1,2	Stow away from acids
	Sodium dichloro isocyanurate. *See* Sodium dichloro-s-triazinetrione									
	Sodium dichloro-s-triazine-trione	Oxidizer	Oxidizer	173.153	173.217	50 pounds	100 pounds	1,2	1,2	
A	Sodium dichromate	ORM-A	None	173.505	173.510	No limit	No limit			
A	Sodium fluoride, solid	ORM-B	None	173.505	173.510	No limit	No limit			
*	Sodium fluoride solution	Corrosive material	Corrosive	173.244	173.245	1 quart	5 gallons	1,2	1,2	Stow away from acids
	Sodium hydrate. *See* Caustic soda, dry, etc.									
	Sodium hydride	Flammable solid	Flammable solid and Dangerous when wet	None	173.198	Forbidden	25 pounds	1,2	5	Segregation same as for flammable solids labeled Dangerous When Wet
A	Sodium hydrogen sulfate, solid	ORM-B	None	173.505	173.510 173.800	25 pounds	100 pounds			
*	Sodium hydrogen sulfate solution	Corrosive material	Corrosive	173.244	173.245	1 quart	1 gallon	1,2	1,2	
A	Sodium hydrogen sulfite, solid	ORM-B	None	173.505	173.510	25 pounds	100 pounds			
	Sodium hydrosulfite (*sodium dithionite*)	Flammable solid	Flammable solid	173.153	173.204	25 pounds	100 pounds	1,2	1,2	Keep dry. Below deck stowage in metal drums only. Separate from flammable gases, liquids, oxidizing materials, or organic peroxides

§ 172.101 . Hazardous Materials Table—(Continued)

(1)	(2)	(3)	(4)	(5) Packaging		(6) Maximum net quantity in one package		(7) Water shipments		
*/W/A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Sodium hydroxide, dry solid, flake, bead, *or* granular	Corrosive material	Corrosive	173.244	173.245b	25 pounds	200 pounds	1,2	1,2	Keep dry
*	Sodium hydroxide, liquid *or* solution	Corrosive material	Corrosive	173.244	173.249	1 quart	5 gallons	1,2	1,2	
A	Sodium metabisulfite	ORM-B	None	173.505	173.510	No limit	No limit			
	Sodium, metal *or* metallic	Flammable solid	Flammable solid and Dangerous when wet	None	173.206	Forbidden	25 pounds	1,2	5	Segregation same as for flammable solids labeled Dangerous When Wet
	Sodium, metal dispersion in organic solvent	Flammable solid	Flammable solid and Dangerous when wet	None	173.230	Forbidden	10 pounds	1,2	5	Segregation same as for flammable solids labeled Dangerous When Wet
	Sodium, metal liquid alloy	Flammable solid	Flammable solid and Dangerous when wet	None	173.202	Forbidden	1 pound	1,2	5	Segregation same as for flammable solids labeled Dangerous When Wet
*	Sodium methylate, alcohol mixture	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
*	Sodium methylate, alcohol mixture	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
*	Sodium methylate, alcohol mixture	Corrosive material	Corrosive	173.244	173.245	1 quart	1 quart	1,2	1,2	
	Sodium methylate, dry	Flammable solid	Flammable solid	173.153	173.154	25 pounds	100 pounds	1,2	1	Segregation same as for flammable solids labeled Dangerous When Wet
	Sodium monoxide, solid	Corrosive material	Corrosive	173.244	173.245b	25 pounds	100 pounds	1,2	1,2	Keep dry
	Sodium nitrate	Oxidizer	Oxidizer	173.153	173.182	25 pounds	100 pounds	1,2	1,2	
	Sodium nitrate bags. See Bags, sodium nitrate, empty and unwashed									
	Sodium nitrite	Oxidizer	Oxidizer	173.153	173.154 173.234	25 pounds	100 pounds	1,2	1,2	Stow separate from ammonium compounds and cyanides. Bagged material not permitted on passenger vessels
	Sodium nitrite mixed (*fused*) with potassium nitrate	Oxidizer	Oxidizer	173.153	173.183	25 pounds	100 pounds	1,2	1,2	Stow separate from ammonium compounds and cyanides.
	Sodium nitrite mixture (*sodium nitrate, sodium nitrite, and potassium nitrate*)	Oxidizer	Oxidizer	173.153	173.234	25 pounds	100 pounds	1,2	1,2	Stow separate from ammonium compounds and cyanides.
A	Sodium pentachlorophenate	ORM-A	None	173.505	173.510	No limit	No limit			
	Sodium perchlorate	Oxidizer	Oxidizer	173.153	173.154	25 pounds	100 pounds	1,3	1,3	Stow away from powdered metals
	Sodium permanganate	Oxidizer	Oxidizer	173.153	173.154	25 pounds	100 pounds	1,2	1,2	Separate from ammonium compounds and hydrogen peroxide
	Sodium peroxide	Oxidizer	Oxidizer	None	173.187	Forbidden	100 pounds	1,2	1	Keep dry. Stow away from powdered metals, permanganates, combustible packing of other cargo, and combustible foodstuffs
	Sodium phenolate, solid	Corrosive material	Corrosive	173.244	173.245b	25 pounds	100 pounds	1,2	1,2	
	Sodium phosphide	Flammable solid	Flammable solid and Dangerous when wet	None	173.154	Forbidden	25 pounds	1	5	
	Sodium picramate, wet (*with at least 20% water*)	Flammable solid	Flammable solid	None	173.205	Forbidden	25 pounds	1,2	5	Stow away from heavy metals, especially lead, and its compounds
	Sodium potassium alloy	Flammable solid	Flammable solid and Dangerous when wet	None	173.206	Forbidden	25 pounds	1,2	5	Under deck stowage must be readily accessible. Segregation same as for flammable solids labeled Dangerous When Wet
	Sodium sulfate, acid. *See appropriate* Sodium hydrogen sulfate entry									
*	Sodium sulfide, anhydrous	Flammable solid	Flammable solid	173.153	173.207	25 pounds	300 pounds	1,2	1,2	Stow separate from liquid acids. Separate from flammable gases or liquids, oxidizing materials or organic peroxides
*	Solvent, n.o.s.	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
*	Solvent, n.o.s.	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
*	*Sparklers. See* Fireworks, common									
	Spent iron mass. See Iron mass, spent									
	Spent iron sponge. See Iron sponge, spent									
	Spent mixed acid. See Nitrating acid									
	Spent oxide. See Oxide, spent									
	Spent sulfuric acid. See sulfuric acid, spent									
	Spirits of nitroglycerin, (*1 to 10%*)	Flammable liquid	Flammable liquid	None	173.133	Forbidden	6 quarts	1,2	5	Segregation same as for explosives
	Spirits of nitroglycerin, not exceeding 1% nitroglycerin by weight	Flammable liquid	Flammable liquid	173.118	173.133	1 quart	6 quarts	1,2	1	
	Spirits of salt. *See* Hydrochloric acid									

§ 172.101 Hazardous Materials Table—(Continued)

(1)	(2)	(3)	(4)	(5)		(6)		(7)		
				Packaging		Maximum net quantity in one package		Water shipments		
				(a)	(b)	(a)	(b)	(a)	(b)	(c)
*/ W/ A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	Exceptions	Specific requirements	Passenger carrying aircraft or railcar	Cargo only aircraft	Cargo vessel	Passenger vessel	Other requirements
	Sporting powder. See Black powder *or* Propellant explosive, solid, Class B explosive									
	Spray starting fluid. See Engine starting fluid									
	Spreader cartridge. See Fireworks, special									
	Squib, electric or safety. See Electric squib *or* Safety squib									
*	*Stain. See* *Paint, enamel, lacquer, stain, shellac, varnish, etc.									
	Stannic phosphide	Flammable solid	Flammable solid and Dangerous when wet	None	173.154	Forbidden	25 pounds	1	5	Segregation same as for flammable solid labeled Dangerous When Wet
A	Stannous chloride, solid	ORM-B	None	173.505	173.510	No limit	No limit			
*	Starter cartridge	Class B explosive	Explosive B	None	173.92	Forbidden	200 pounds	1,3	5	
*	Starter cartridge	Class C explosive	Explosive C	None	173.102	50 pounds	150 pounds	1,3	1,3	
	Storage battery wet. See Battery, electric storage, wet									
	Straw. *See* Hay									
	Strontium arsenite, solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
	Strontium chlorate	Oxidizer	Oxidizer	173.153	173.163	25 pounds	100 pounds	1,2	1,2	Stow separate from ammonium compounds. Stow away from powdered metals
*	Strontium chlorate, wet	Oxidizer	Oxidizer	173.153	173.163	25 pounds	200 pounds	1,2	1,2	Stow separate from ammonium compounds. Stow away from powdered metals
	Strontium nitrate	Oxidizer	Oxidizer	173.153	173.182	25 pounds	100 pounds	1,2	1,2	
	Strontium peroxide	Oxidizer	Oxidizer	173.153	173.154	25 pounds	100 pounds	1,2	1,2	Keep dry
*	Strychnine salt, solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
	Strychnine, solid	Poison B	Poison	None	173.377	Forbidden	200 pounds	1,2	1,2	
	Styphnate of lead. See Initiating explosive									
	Styrene monomer, inhibited	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1,2	
	Succinic acid peroxide	Organic peroxide	Organic peroxide	173.153	173.157 173.158	Forbidden	25 pounds	1	1	
	Sulfur chloride (*mono and di*)	Corrosive material	Corrosive	None	173.247	Forbidden	1 gallon	1	1	Keep dry. Glass carboys not permitted on passenger vessels
	Sulfur dioxide	Nonflammable gas	Nonflammable gas	173.306	173.304 173.314 173.315	Forbidden	300 pounds	1,2	4	Stow away from living quarters
	Sulfur flower. *See* Sulfur									
	Sulfur hexafluoride	Nonflammable gas	Nonflammable gas	173.306	173.304	150 pounds	300 pounds	1,2	1,2	
	Sulfuric acid (*For fuming sulfuric acid, see Oleum*)	Corrosive material	Corrosive	173.244	173.272	1 quart	1 gallon	1	1	Keep dry. Under deck stowage is permitted on cargo vessels only in metal drums
	Sulfuric acid, spent	Corrosive material	Corrosive	None	173.248	Forbidden	1 quart	1	1	Under deck stowage is permitted on cargo vessels only in metal drums
	Sulfuric anhydride. *See* Sulfur trioxide, stabilized									
*	Sulfurous acid	Corrosive material	Corrosive	173.244	173.245	2 gallons	2 gallons	1,2	1	Glass carboys in hampers not permitted under deck
W	Sulfur, solid	ORM-C	None	173.505	173.1080			1,2	1,2	Protect from sparks and open flame. Stow separate from oxidizing materials. Segregation same as for flammable solids
	Sulfur trioxide, stabilized	Corrosive material	Corrosive	173.244	173.273	Forbidden	1 gallon	1,2	1,2	Keep dry. Glass bottles not permitted under deck
	Sulfuryl chloride	Corrosive material	Corrosive	173.244	173.247	1 quart	1 quart	1	1	Keep dry. Glass carboys not permitted on passenger vessels
	Sulfuryl fluoride	Nonflammable gas	Nonflammable gas	173.306	173.304 173.314	150 pounds	300 pounds	1,3	1	
	Sulphur. *See* Sulfur									
	Supplementary charge (explosive)	Class A explosive	Explosive A	None	173.69	Forbidden	Forbidden	6	5	
	Tankage. See Garbage tankage									
*	Tankage fertilizer	Flammable solid	Flammable solid	None	173.209	Forbidden	Forbidden	1	5	Keep dry. Separate from flammable gases or liquids, oxidizing materials, or organic peroxides
*	Tankage, rough ammoniate	Flammable solid	Flammable solid	None	173.210	Forbidden	Forbidden	1	5	Keep dry. Separate from flammable gases or liquids, oxidizing materials, or organic peroxides

§ 172.101 Hazardous Materials Table—(Continued)

(1)	(2)	(3)	(4)	(5) Packaging		(6) Maximum net quantity in one package		(7) Water shipments		
*/W/A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Tank car, containing residual phosphorus and filled with water or inert gas, See 173.190									
	Tank car, empty (*previously used for a hazardous material*), *See* 173.29									
	Tank car, empty (*previously used for a Poison A material*), *See* 172.510 and 173.29									
	Tank, portable, empty (*previously used for a hazardous material*), *See* 172.510, 173.29, and 172.514									
	Tank truck, empty, *See* 172.510, 172.514 and 173.29.									
*	Tar, liquid	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
*	Tar, liquid	Flammable liquid	Flammable liquid	173.118	173.131	1 quart	10 gallons	1,2	1	
	Tear gas ammunition. See Chemical ammunition (containing an irritant material)									
	Tear gas candle	Irritating material	Irritant	None	173.385	Forbidden	75 pounds	1	5	Stow away from living quarters
	Tear gas cartridge. See Small arms ammunition irritating (*tear gas*) cartridge									
	Tear gas grenade. See Grenade, tear gas									
	Tertiary alcohol. See Alcohol, n.o.s.									
	Tertiary butyl isopropyl benzene hydroperoxide	Organic peroxide	Organic peroxide	173.153	173.224	1 quart	1 quart	1,2	4	
AW	Tetrachloroethane	ORM-A	None	173.505	173.620	1 quart	10 gallons	1,2	1,2	
A	*or* Perchloroethylene Tetrachloroethylene	ORM-A	None	173.505	173.510 173.605	10 gallons	55 gallons			
	Tetraethyl dithio pyrophosphate and compressed gas mixture	Poison A	Poison gas	None	173.334	Forbidden	Forbidden	1	5	Shade from radiant heat. Stow away from living quarters. Segregation same as for nonflammable gases
	Tetraethyl dithio pyrophosphate, liquid	Poison B	Poison	None	173.358	Forbidden	1 quart	1	5	
	Tetraethyl dithio pyrophosphate mixture, dry	Poison B	Poison	None	173.377	Forbidden	200 pounds	1	5	
	Tetraethyl dithio pyrophosphate mixture, liquid	Poison B	Poison	None	173.359	Forbidden	1 quart	1	5	
	Tetraethyl lead, liquid (*including flash point for export shipment by water*)	Poison B	Poison	None	173.354	Forbidden	55 gallons	1	5	If flash point is 141 deg F. or less, segregation must be the same as for flammable liquids
	Tetraethyl pyrophosphate and compressed gas mixture	Poison A	Poison gas	None	173.334	Forbidden	Forbidden	1	5	Shade from radiant heat. Stow away from living quarters. Segregation same as for nonflammable gases
	Tetraethyl pyrophosphate, liquid	Poison B	Poison	None	173.358	Forbidden	1 quart	1,2	5	
	Tetraethyl pyrophosphate mixture, dry	Poison B	Poison	None	173.377	Forbidden	200 pounds	1,2	5	
	Tetraethyl pyrophosphate mixture, liquid	Poison B	Poison	None	173.359	Forbidden	1 quart	1,2	5	
	Tetrafluoroethylene, inhibited	Flammable gas	Flammable gas	173.306	173.304	Forbidden	300 pounds	1,2	1,2	Stow away from living quarters
	1,2,3,6-Tetrahydrobenzaldehyde	Corrosive material	Corrosive	173.244	173.245	1 quart	10 gallons	1,2	1,2	
	Tetrahydrofuran	Flammable liquid	Flammable liquid	None	173.119	Forbidden	10 gallons	1,3	5	
	Tetramethyl ammonium hydroxide, liquid	Corrosive material	Corrosive	173.244	173.245	1 quart	10 gallons	1,2	1,2	
A	Tetramethyl methylene diamine	ORM-A	None	173.505	173.510					
	Tetranitromethane	Oxidizer	Oxidizer	None	173.203	Forbidden	Forbidden	1	5	Shade from radiant heat. Stow away from foodstuffs
	Tetrazene (guanyl nitrosamino guanyltetrazene). See Initiating explosive									
	Tetryl. See High explosive									
*	Textile treating compound mixture, liquid	Corrosive material	Corrosive	173.244	173.245 173.249a	1 quart	10 gallons	1,2	1,2	
	Textile waste. *See* Cotton waste									
	Textile waste, wet	Flammable solid	Flammable solid	None	173.211	Forbidden	Forbidden	1,2	1,2	Separate from flammable gases or liquids, oxidizing materials, or organic peroxides
*	Thallium salt, solid, n.o.s.	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
	Thallium sulfate, solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
	Thinner for rust preventive coating. *See* *Rust preventive coating									

§ 172.101 **Hazardous Materials Table—(Continued)**

(1)	(2)	(3)	(4)	(5) Packaging		(6) Maximum net quantity in one package		(7) Water shipments		
*/ W/ A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Thinning compound, paint, varnish, lacquer, etc. See *Paint, enamel, lacquer, stain, shellac, varnish, etc.									
	Thiocarbonyl-chloride. See Thiophosgene									
	Thioglycolic acid	Corrosive material	Corrosive	173.244	173.245	1 quart	1 gallon	1,2	1,2	Glass carboys in hampers not permitted under deck
	Thionyl chloride	Corrosive material	Corrosive	None	173.247	Forbidden	1 gallon	1	1	Keep dry. Glass carboys not permitted on passenger vessels
	Thiophosgene	Poison B	Poison	None	173.356	Forbidden	1 gallon	1	5	Shade from radiant heat
	Thiophosphoryl chloride	Corrosive material	Corrosive	None	173.271	Forbidden	1 quart	1	1	Keep dry. Glass carboys not permitted on passenger vessels
A	Thiram	ORM-A	None	173.505	173.510	No limit	No limit			
	Thorium metal, pyrophoric	Radioactive material	Radioactive and Flammable solid	173.226	173.226			1,2	1,2	
	Thorium nitrate	Radioactive material	Radioactive and Oxidizer	173.392	173.393			1,2	1,2	Separate longitudinally by a complete hold or compartment from explosives
	Time fuze. See Fuze, time, non-detonating									
	Tin chloride, fuming. *See* Tin tetrachloride, anhydrous									
*	Tinning flux. *See* *Zinc chloride solution									
	Tin perchloride. *See* Tin tetrachloride, anhydrous									
	Tin tetrachloride, anhydrous	Corrosive material	Corrosive	173.244	173.247	1 quart	1 quart	1	1	Keep dry. Glass carboys not permitted on passenger vessels
	Titanium metal powder, dry or wet *with less than 20% water*	Flammable solid	Flammable solid	None	173.208	Forbidden	75 pounds	1,2	5	
	Titanium metal powder, wet with 20% or more water	Flammable solid	Flammable solid	None	173.208	Forbidden	150 pounds	1,2	5	
*	Titanium sulfate solution *containing not more than 45% sulfuric acid*	Corrosive material	Corrosive	173.244	173.297	1 quart	1 gallon	1	4	Shade from radiant heat. Keep dry
	Titanium tetrachloride	Corrosive material	Corrosive	173.244	173.247	1 quart	10 gallons	1	1	Keep dry. Glass carboys not permitted on passenger vessels
	Toluene (*toluol*)	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
A	Toluenediamine	ORM-A	None	173.505	173.510	No limit	No limit			
	Toluene diisocyanate	Poison B	Poison	173.345	173.346	Forbidden	55 gallons	1,3	1,3	Shade from radiant heat
	Toluene sulfonic acid, liquid	Corrosive material	Corrosive	173.244	173.245	1 quart	10 gallons	1,2	1,2	
	Torch. See Fireworks, common									
	Torpedo, railway	Class B explosive	Explosive B	None	173.91	Forbidden	200 pounds	1,2	1,2	Passenger vessels in metal lockers only
	Toy caps	Class C explosive	Explosive C	None	173.100 173.109	50 pounds	150 pounds	1,3	1,3	
	Toy propellant device	Class C explosive	Explosive C	None	173.111	50 pounds	150 pounds	1,3	1,3	
	Toy smoke device	Class C explosive	Explosive C	None	173.111	50 pounds	150 pounds	1,3	1,3	
	Toy torpedo. See Fireworks, special									
	Tracer	Class C explosive	Explosive C	None	173.105	50 pounds	150 pounds	1,3	1,3	
	Tracer fuze	Class C explosive	Explosive C	None	173.105	50 pounds	150 pounds	1,3	1,3	
	Tractor *See* Motor vehicle									
	Trailer or truck body with refrigeration or heating equipment *See* Motor vehicle									
	Treated paper (*manufactured article properly dried to prevent spontaneous heating*). *See* Oiled material									
	Treated textile (*manufactured article properly dried to prevent spontaneous heating*). *See* Oiled material									
	Trichloroacetic acid, solid	Corrosive material	Corrosive	173.244	173.245b	25 pounds	100 pounds	1,2	1	
*	Trichloroacetic acid solution	Corrosive material	Corrosive	173.244	173.245	1 quart	1 quart	1,2	1,2	Glass carboys in hampers not permitted under deck
A	Trichloroethylene	ORM-A	None	173.505	173.510 173.605	10 gallons	55 gallons			
	Trichlorosilane	Flammable liquid	Flammable liquid	None	173.136	Forbidden	10 gallons	1	5	Segregation same as for flammable solids labeled Dangerous When Wet
	Trichloro-s-triazinetrione, dry (*containing over 39% available chlorine*)	Oxidizer	Oxidizer	173.153	173.217	50 pounds	100 pounds	1,3	1,3	Keep dry (mono-(Trichloro) tetra-(monopotassium dichloro)-penta-s-triazinetrione, dry (*containing over 39% available chlorine*)
	Trick matches	Class C explosive	Explosive C	None	173.111	Forbidden	Forbidden	1,3	1,3	

(1)	(2)	(3)	(4)	(5)		(6)		(7)		
				Packaging		Maximum net quantity in one package		Water shipments		
*/W/A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Trick noise maker, explosive	Class C explosive	Explosive C	None	173.111	50 pounds	150 pounds	1,3	1,3	
	Triethylamine	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Trifluorochlorethylene	Flammable gas	Flammable gas	173.306	173.304 173.314	Forbidden	10 gallons	1,2	1	
	Trimethyl acetyl chloride	Corrosive material	Corrosive	173.244	173.247	1 quart	1 quart	1,2	1,2	
	Trimethylamine, anhydrous	Flammable gas	Flammable gas	173.306	173.304 173.314 173.315	Forbidden	300 pounds	1	4	
*	Trimethylamine, aqueous solution	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	Stow away from mercury and mercury compounds
	Trimethylchlorosilane	Flammable liquid	Flammable liquid	None	173.135	Forbidden	10 gallons	1,2	1	
	Trinitrobenzene, dry. See High explosive									
*	Trinitrobenzene, wet *containing at least 10% water*	Flammable solid	Flammable solid	173.212		1 pound	1 pound	1	4	Stow away from heavy metals and their compounds
	Trinitrobenzoic acid, dry. See High explosive									
*	Trinitrobenzoic acid, wet, *containing at least 10% water*	Flammable solid	Flammable solid	None	173.192 173.193	1 pound	25 pounds	1	5	Stow away from heavy metals and their compounds
	Trinitrobenzoic acid, wet, containing at least 10% water, over 25 pounds in one outside packaging. See High explosive									
	Trinitroresorcinol. See High explosive									
	Trinitrotoluene, dry. See High explosive									
	Trinitrotoluene, wet *containing at least 10% water*	Flammable solid	Flammable solid	173.212		1 pound	1 pound	1	4	Stow away from heavy metals and their compounds
	Tris-(1-aziridinyl) phosphine oxide	Corrosive material	Corrosive	173.244	173.299a	1 quart	1 gallon	1	1	Keep dry. Glass carboys not permitted on passenger vessels
*	Turpentine	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
*	Turpentine	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1,2	
*	Turpentine substitute	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
*	Turpentine substitute	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
W	Twisted jute packing (*rope*) (*treated or untreated*). *See* Oakum									
	Uranium hexafluoride, fissile (containing more than 0.7% U-235)	Radioactive material	Radioactive and corrosive	173.393	173.396			1,2	1,2	
	Uranium hexafluoride, low specific activity (*containing 0.7% or less U-235*)	Radioactive material	Radioactive and corrosive	173.392	173.393			1,2	1,2	
	Uranium metal, pyrophoric	Radioactive material	Radioactive and Flammable solid	173.392	173.393 173.396			1,2	1,2	
	Uranyl nitrate hexahydrate solution	Radioactive material	Radioactive and corrosive	173.392	173.393 173.395 173.396			1,2	1,2	
	Uranyl nitrate, solid	Radioactive material	Radioactive and oxidizer	173.392	173.393 173.396			1,2	1,2	Separate longitudinally by an intervening hold or compartment from explosives
	Urea nitrate, dry. See High explosive									
*	Urea nitrate, wet *with 10% or more water*	Flammable solid	Flammable solid	None	173.192 173.193	1 pound	25 pounds	1,2	1,2	
	Urea nitrate, wet with 10% or more water, over 25 pounds in one outside packaging. See High explosive									
	Urea peroxide	Organic peroxide	Organic peroxide	173.153	173.227	2 pounds	25 pounds	1	4	Keep dry. Shade from radiant heat
	Valeric acid	Corrosive material	Corrosive	173.244	173.245	1 quart	10 gallons	1,2	1,2	
	Valeryl chloride	Corrosive material	Corrosive	173.244	173.245	1 quart	1 gallon	1,2	1,2	
	Vanadium oxytrichloride	Corrosive material	Corrosive	173.244	173.247a	Forbidden	1 quart	1	4	Shade from radiant heat
	Vanadium tetrachloride	Corrosive material	Corrosive	173.244	173.247a	Forbidden	1 quart	1	4	Shade from radiant heat
	Varnish. See *Paint, enamel, lacquer, stain, shellac, varnish, etc.									
	Varnish drier. See *Paint drier, liquid									
	Varnish remover or reducer. See *Compound, lacquer, paint or varnish removing, reducing, or thinning liquid									
	Varnish thinning compound. See *Compound, lacquer, paint, or varnish removing, reducing, or thinning liquid									

§ 172.101 **Hazardous Materials Table—(Continued)**

(1)	(2)	(3)	(4)	(5)		(6)		(7)		
				Packaging		Maximum net quantity in one package		Water shipments		
*/W/A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Very signal cartridge	Class C explosive	Explosive C	None	173.108	50 pounds	200 pounds	1,3	1,3	
	Vinyl acetate	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Vinyl chloride	Flammable gas	Flammable gas	173.306	173.304 173.314 173.315	Forbidden	300 pounds	1,2	4	Stow away from living quarters
	Vinyl ethyl ether, inhibited	Flammable liquid	Flammable liquid	None	173.119	Forbidden	1 gallon	1,3	5	
	Vinyl fluoride, inhibited	Flammable gas	Flammable gas	173.306	173.304 173.314 173.315	Forbidden	300 pounds	1	4	
	Vinylidene chloride, inhibited	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,3	4	
	Vinyl isobutyl ether	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Vinyl methyl ether, inhibited	Flammable gas	Flammable gas	173.306	173.304 173.314	Forbidden	20 pounds	1,2	1	Stow away from living quarters
	Vinyl trichlorosilane	Flammable liquid	Flammable liquid	None	173.135	Forbidden	10 gallons	1,2	1	
	Vitriol, oil of. *See* Sulfuric acid									
	War head. See Explosive projectile									
	Waste paper, wet	Flammable solid	Flammable solid	None	173.186	Forbidden	Forbidden	1,2	1,2	Separate from flammable gas or liquids, oxidizing materials, or organic peroxides
	Waste textile, wet	Flammable solid	Flammable solid	None	173.211	Forbidden	Forbidden	1,2	1,2	Separate from flammable gases or liquids, oxidizing materials, or organic peroxides
	Waste wool, wet	Flammable solid	Flammable solid	None	173.213	Forbidden	Forbidden	1,2	1,2	Separate from flammable gases or liquids, oxidizing materials, or organic peroxides
	Water reactive solid, n.o.s.	Flammable solid	Flammable solid and Dangerous when wet	173.153	173.154	Forbidden	25 pounds	1,2	4	Segregation same as for flammable solids labeled Dangerous When Wet
•	Water treatment compounds, liquid	Corrosive material	Corrosive	173.244	173.249	1 quart	10 gallons	1	1	
•	Wax, liquid	Combustible liquid	None	173.118a	None	No limit	No limit	1,2	1,2	
	Wet hair. See Hair, wet									
	Wet textile waste. See Waste textile, wet									
	White acid (*ammonium bifluoride and hydrochloric acid mixture*)	Corrosive material	Corrosive	173.244	173.264	1 quart	1 gallon	1	1	
•	*Wood filler. See* *Paint, varnish, lacquer, stain, shellac enamel, etc.									
	Wood shavings (*when dry, clean and free from oil*). *See* Sawdust									
	Wool waste. *See* Cotton waste									
	Wool waste, wet. See Waste wool, wet									
•	Xenon	Nonflammable gas	Nonflammable gas	173.306	173.302	150 pounds	300 pounds	1,2	1,2	
	X-ray film. See Film									
	Xylene (*xylol*)	Flammable liquid	Flammable liquid	173.118	173.119	1 quart	10 gallons	1,2	1	
	Xylyl bromide	Irritating material	Irritant	None	173.382	Forbidden	75 pounds	1	5	Stow away from living quarters
A	Yeast, active, *in liquid or pressed form*	ORM-C	None	None	173.1085					
	Zinc ammonium nitrite	Oxidizer	Oxidizer	None	173.228	25 pounds	100 pounds	1,3	5	This material may be forbidden in water transportation by certain countries
	Zinc arsenate	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
	Zinc arsenite, solid	Poison B	Poison	173.364	173.365	50 pounds	200 pounds	1,2	1,2	
	Zinc chlorate	Oxidizer	Oxidizer	173.153	173.163	25 pounds	100 pounds	1,2	1,2	Stow separate from ammonium compounds and away from powdered metals
•	Zinc chloride solution	Corrosive material	Corrosive	173.244	173.245	1 quart	1 quart	1,2	1,2	
	Zinc cyanide	Poison B	Poison	173.370		25 pounds	200 pounds	1,2	1,2	Stow away from acids
	Zinc ethyl. See Pyrophoric liquids, n.o.s.									
•	Zinc muriate solution. *See* Zinc chloride solution									
	Zinc nitrate. See Nitrates, n.o.s.									
	Zinc permangante	Oxidizer	Oxidizer	173.153	173.154	25 pounds	100 pounds	1,2	1,2	Separate from ammonium compounds and hydrogen peroxide
	Zinc peroxide	Oxidizer	Oxidizer	173.153	173.154	25 pounds	100 pounds	1,2	1,2	Keep dry

(1)	(2)	(3)	(4)	(5)		(6)		(7)		
				Packaging		Maximum net quantity in one package		Water shipments		
*/W/A	Hazardous materials descriptions and proper shipping names	Hazard class	Label(s) required (if not excepted)	(a) Exceptions	(b) Specific requirements	(a) Passenger carrying aircraft or railcar	(b) Cargo only aircraft	(a) Cargo vessel	(b) Passenger vessel	(c) Other requirements
	Zirconium hydride	Flammable solid	Flammable solid and Dangerous when wet	None	173.206	Forbidden	150 pounds	1,2	5	Segregation same as for flammable solids labeled Dangerous When Wet
	Zirconium metal, dry, *chemically produced, finer than 20 mesh particle size*	Flammable solid	Flammable solid	None	173.214	Forbidden	75 pounds	1	5	Separate from flammable gases or liquids, oxidizing materials or organic peroxides
	Zirconium metal, dry, *mechanically produced, finer than 270 mesh particle size*	Flammable solid	Flammable solid	None	173.214	Forbidden	75 pounds	1	5	Separate from flammable gases or liquids, oxidizing materials or organic peroxides
*	Zirconium, metal, liquid, suspensions	Flammable liquid	Flammable liquid	None	173.140	Forbidden	5 gallons	1	5	
	Zirconium metal, wet, *chemically produced, finer than 20 mesh particle size*	Flammable solid	Flammable solid	None	173.214	Forbidden	150 pounds	1,2	5	
	Zirconium metal, wet *mechanically produced, finer than 270 mesh particle size*	Flammable solid	Flammable solid	None	173.214	Forbidden	150 pounds	1,2	5	
	Zirconium picramate, wet *with at least 20% of water*	Flammable solid	Flammable solid	None	173.216	Forbidden	25 pounds	1	1	Stow away from heavy metals and their salts
*	Zirconium scrap (*borings, clippings, shavings, sheets, or turnings*)	Flammable solid	Flammable solid	173.153	173.220	Forbidden	Forbidden	1	4	Separate from flammable gases of liquids, oxidizing materials, or organic peroxides
	Zirconium tetrachloride, solid	Corrosive material	Corrosive	173.244	173.245b	25 pounds	100 pounds	1,2	1,2	

[Amdt. 172-29A, 41 FR 40631, Sept. 20, 1976]

Subpart C—Shipping Papers

SOURCE: Amdt. 172-29A, 41 FR 40677, Sept. 20, 1976, unless otherwise noted.

§ 172.200 Applicability.

(a) *Description of hazardous materials required.* Except as otherwise provided in this subpart, each person who offers a hazardous material for transportation shall describe the hazardous material on the shipping paper in the manner required by this subpart.

(b) *Exceptions.* This subpart does not apply to any material that is—

(1) An ORM-A, B, or C, unless it is offered or intended for transportation by air when it is subject to the regulations pertaining to transportation by air as specified in § 172.101; or

(2) An ORM-A, B, or C, unless it is offered or intended for transportation by water when it is subject to the regulations pertaining to transportation by water as specified in § 172.101; or

(3) An ORM-D unless it is offered or intended for transportation by air.

§ 172.201 General entries.

(a) *Contents.* When a description of hazardous material is required to be included on a shipping paper, that description must conform to the following requirements:

(1) When a hazardous material and a nonhazardous material are described on the same shipping paper, the hazardous material description entries required by § 172.202 and those additional entries that may be required by § 172.203.

(i) Must be entered first, or

(ii) Must be entered in a color that clearly contrasts with any description of a nonhazardous material on the shipping paper, or a description on a reproduction of a shipping paper may be highlighted, rather than printed, in a contrasting color, or

(iii) Must be identified by the entry of an "X" placed before the proper shipping name in a column captioned "HM".

(2) The required shipping description on a shipping paper and all copies thereof used for transportation purposes, must be legible and printed (manually or mechanically) in English.

(3) Unless it is specifically authorized or required in this subpart, the required shipping description may not contain any code or abbreviation.

(4) A shipping paper may contain additional information concerning the material provided the information is not inconsistent with the required description. Unless otherwise permitted or required by this subpart, additional information must be placed after the basic description required by §§ 172.202(a)(1) and (a)(2).

(i) When appropriate, the entry "IMCO" may be entered immediately following the class in the basic description.

(ii) For a material meeting the definition of more than one hazard class, the additional hazard class or classes entered may be entered after the hazard class in the basic description.

(b) *Name of shipper.* A shipping paper for a shipment by water must contain the name of the shipper.

§ 172.202 Description of hazardous material on shipping papers.

(a) Each description of a hazardous material on the shipping paper must include—

(1) The proper shipping name prescribed for the material as required by § 172.101.

(2) The class prescribed for the material as required by § 172.101. When the words of the proper shipping name are identical (excluding the entry "n.o.s.") with the words of the class, the inclusion of the class is not required.

(3) [Reserved]

(4) Except for empty packagings, the total quantity (by weight, volume, or as otherwise appropriate) of the hazardous material covered by the description.

(b) The basic description specified in paragraphs (a)(1) and (a)(2) of this section must be shown in sequence except that the technical name of the material may be entered between the proper shipping name and the class. For example: "Gasoline, Flammable liquid"; or "Flammable solid, n.o.s."; or "Corrosive liquid, n.o.s. (caprylyl chloride), corrosive material."

(c) The total quantity of the material covered by one description must appear before or after, or both before and after, the description required and authorized by this subpart.

(1) Abbreviations may be used to specify the type of packaging and weight or volume. For example: 40 cyl. Nitrogen, Non-flammable Gas-800 pounds; 1 box Cement, liquid n.o.s., Flammable liquid, 25 lbs.

(2) The type of packaging may be entered in any appropriate manner.

§ 172.203 Additional description requirements.

(a) *Exemptions.* Each shipping paper issued in connection with a shipment made under an exemption must bear the notation "DOT-E" followed by the exemption number assigned and so located that the notation is clearly associated with the description to which the exemption applies.

(b) *Limited quantities.* The description for a material defined as "limited quantities" in this subchapter must include the words "Limited Quantities" or "Ltd. Qty." following the basic description.

(c) *Blasting caps.* The description for a shipment of blasting caps must have an entry stating the number of caps in the shipment, either before or after the basic description.

(d) *Radioactive material.* (1) The description for a shipment of radioactive material must include the following additional entries as appropriate:

(i) The name of each radionuclide in the radioactive material that is listed in § 173.390 of this subchapter. Abbreviations, e.g., "^{99}Mo" are authorized.

(ii) A description of the physical and chemical form of the material, if the material is not in special form.

(iii) The activity contained in each package of the shipment in terms of curies, millicuries, or microcuries. Abbrevations are authorized.

(iv) The category of label applied to each package in the shipment. For example: "RADIOACTIVE WHITE-I."

(v) The transport index assigned to each package in the shipment bearing RADIOACTIVE YELLOW-II or RADIOACTIVE YELLOW-III labels.

(vi) For a shipment of fissile radioactive materials—

(A) The words "Fissile Exempt," if the package is exempt pursuant to § 173.396 (a) of this subchapter, or

(B) If not exempt, the fissile class of each package in the shipment, pursuant to §173.389(a) of this subchapter; and

(C) For a Fissile Class III shipment, the additional notation: "Warning—Fissile Class III Shipment. Do not Load More Than * * * Packages per Vehicle." (Asterisks to be replaced by appropriate number.) "In loading and Storage Areas, Keep at Least 20 Feet (6 Meters) from Other Packages Bearing Radioactive Labels."

(D) If a Fissile Class III shipment is to be transported by water, the supplementary notation must also include the following statement: "For shipment by water, only one Fissile Class III shipment is permitted in each hold."

(vii) For a package approved by the U.S. Energy Research and Development Administration (ERDA) or U.S. Nuclear Regulatory Commission (USNRC), a notation of the package identification marking as prescribed in the applicable ERDA or USNRC approval. (See § 173.-393a of the subchapter.)

(viii) For an export shipment or a shipment in a foreign made package, a notation of the package identification marking as prescribed in the applicable International Atomic Energy Agency (IAEA) Certificate of Competent Authority which has been issued for the package. (See § 173.393b(a)(3) of the subchapter.)

(e) *Empty packagings.* For other than a tank car, the description on the shipping paper for an empty packaging containing the residue of a hazardous material may contain the word "EMPTY" or "EMPTY: Last Contained ______." This entry may be before or after the basic description.

(f) *Transportation by air.* When a package containing a hazardous material is offered for transportation by air and this subchapter prohibits its transportation aboard passenger-carrying aircraft, the words "Cargo-only aircraft" must be entered after the basic description.

(g) *Transportation by rail.* (1) The shipping paper for a rail car (including an empty tank car) containing a hazardous material must contain the notation "Placarded" followed by the name of the placard required for the rail car.

(2) For certain empty rail cars, the description required by § 174.25 of this

subchapter must be entered either before the name of the class of the material or following the basic description of the material in the car.

(3) The shipping paper for each specification DOT 112A or 114A tank car (without head shields) containing a flammable compressed gas must contain the notation, "DOT 112A" or "DOT 114A," as appropriate, and either "Must be handled in accordance with FRA E.O. No. 5" or "Shove to rest per E.O. No. 5."."

(h) *Transportation by highway.* Following the basic description for a hazardous material in a specification MC 330 or MC 331 cargo tank made of quenched and tempered steel, there must be entered for—

(1) *Anhdyrous ammonia.* (i) The words "0.2 per cent water" to indicate the suitability for shipping anhydrous ammonia in the cargo tank as authorized by § 177.817 of this subchapter, or

(ii) The words "NOT FOR Q AND T TANKS" when the anhydrous ammonia does not contain 0.2 per cent or more water by weight.

(2) *Liquefied petroleum gas.* The word "Non-corrosive" or "Non-cor" to indicate the suitability for shipment of the "Non-corrosive" liquefied petroleum gas offered for transportation by cargo tank as authorized by § 173.315(a)(1) Note 15 of this subchapter.

(i) *Transportation by water.* (1) Each shipment by water must have the following additional shipping paper entries:

(i) Identification of the type of packages such as barrels, drums, cylinders, and boxes,

(ii) The number of each type of package including those in a freight container or on a pallet, and

(iii) The gross weight of each type of package or the individual gross weight of each package.

(2) The shipping paper for a hazardous material offered for transportation by water to any country outside the United States must have in parenthesis the technical name of the material following the proper shipping name when the material is described by a "n.o.s." entry in § 172.101. For Example: Corrosive liquid, n.o.s. (caprylyl chloride), Corrosive material. However, for a mixture, only the technical name of any hazardous material giving the mixture its hazardous properties must be identified.

§ 172.204 Shipper's certification.

(a) *General.* Except as provided in paragraphs (b) and (c) of this section, each person who offers a hazardous material for transportation shall certify that the material offered for transportation in accordance with this subchapter by printing (manually or mechanically) the following statement on the shipping paper containing the required shipping description:

> This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

NOTE.—Preprinted certificates complying with 49 CFR 173.430(a) in effect on June 30, 1976, may be used through June 30, 1979. After June 30, 1979, use of the certificate required by this section is mandatory.

(b) *Exceptions.* No certification is required for hazardous material offered for transportation by highway that is transported—

(1) In a cargo tank supplied by the carrier, or

(2) By the shipper as a private carrier except for a hazardous material that is to be reshipped or transferred from one carrier to another.

(c) *Transportation by air*—(1) *General.* Certification containing the following language may be used in place of the certification required by paragraph (a) of this section:

> I hereby certify that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and in proper condition for carriage by air according to applicable national governmental regulations.

(2) *Certificate in duplicate.* Each person who offers a hazardous material to an aircraft operator for transportation by air shall provide two copies of the certification required in this section. (See § 175.30 of this subchapter.)

(3) *Passenger and cargo aircraft.* Each person who offers for transportation by air a hazardous material authorized for air transportation shall add to the certification required in this section the following statement:

> This shipment is within the limitations prescribed for passenger aircraft/cargo-only aircraft (delete nonapplicable).

(4) *Radioactive material.* Each person who offers any radioactive material for transportation aboard a passenger-carrying aircraft shall sign (mechanically or manually) a printed certificate stating that the shipment contains radioactive material intended for use in, or incident to, research, medical diagnosis or treatment. This requirement does not apply to materials excepted under the provisions of § 175.10(a)(6) and (a)(8) of this subchapter.

(d) *Signature.* The certifications required by paragraph (a) or (c) of this section—

(1) Must be legibly signed by a principal, officer, partner, or employee of the shipper or his agent; and

(2) May be legibly signed manually, by typewriter, or by other mechanical means.

Subpart D—Marking

§ 172.300 General marking requirements.

Except as provided by this subchapter, each person who offers a package containing a hazardous material for transportation shall mark the package with the proper shipping name required by § 172.101. However, when it has been determined by the shipper that a package has been previously marked as required for the material it contains, it need not be re-marked. This section does not apply to portable tanks, cargo tanks and tank cars.

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-29A, 41 FR 40678, Sept. 20, 1976]

§ 172.302 Export shipments by water.

(a) Each package of hazardous material offered for export by water and described by a "n.o.s." entry in § 172.101 must have the technical name of the material added in parentheses immediately following the proper shipping name. For example: Corrosive liquid, n.o.s. (Caprylyl chloride).

(b) For a mixture, only the technical name of any hazardous material giving a mixture its hazardous properties must be identified.

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-29A, 41 FR 40678, Sept. 20, 1976]

§ 172.304 Marking specifications.

(a) The marking required in this subpart—(1) Must be durable, in English and printed on or affixed to the surface of a package or on a label, tag, or sign.

(2) Must be displayed on a background of sharply contrasting color;

(3) Must be unobscured by labels or attachments; and

(4) Must be located away from any other marking (such as advertising) that could substantially reduce its effectiveness.

§ 172.306 Consignee's name and address.

(a) Each package containing a hazardous material offered for transportation must be marked with the name and address of the consignee or consignor except when the package is—(1) Transported by highway and will not be transferred from one motor carrier to another;

(2) Part of a carload lot, truckload lot, or freight container load, and the entire contents of the rail car, truck or freight container are tendered from one consignor to one consignee, or

(3) A portable tank, cargo tank or tank car.

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-29A, 41 FR 40678, Sept. 20, 1976]

§ 172.308 Authorized abbreviations.

(a) Abbreviations may not be used except in the following instances—(1) For marking descriptions on ammunition, such as ammunition for cannon without projectiles, etc., the words "with" or "without" may be abbreviated as "W" or "W/O" for example: "ammunition for cannon W/O projectiles"

(2) The abbreviation "ORM" may be used in place of the words "Other Regulated Materials."

§ 172.310 Radioactive materials.

(a) In addition to any other markings required by this subpart, each package containing radioactive materials must be marked as follows: (1) Each package of radioactive materials in excess of 110 pounds (50 kilograms) must have its gross weight plainly and durably marked on the outside of the package.

(2) Each package of radioactive materials which conforms to the requirements for Type A or Type B packaging (§§ 173.389(j) and (k) and 173.398(b) and (c) of this subchapter) must be plainly and durably marked on the outside of the package in letters at least ½-inch (13 mm.) high, with the words "TYPE A" or "TYPE B" as appropriate. A packaging which is not in compliance with these requirements may not be so marked.

(3) Each package of radioactive material destined for export shipment must also be marked "USA" in conjunction with the specification marking, or other package certificate identification. (See §§ 173.393a and 173.393b of this subchapter.)

§ 172.312 Liquid hazardous materials.

(a) Except as provided in this section, each package having an inside packaging containing liquid hazardous materials must be—(1) Packed with closures upward, and

(2) Legibly marked "THIS SIDE UP" or "THIS END UP" as appropriate, to indicate the upward position of the inside packaging.

(b) Except as otherwise prescribed in Part 173 of this subchapter cylinders of liquefied compressed gas and specification containers 6D, 37M, 37P, and 21P are not required to be marked "THIS SIDE UP" or "THIS END UP".

(c) Arrows for purposes other than indicating proper package orientation may not be displayed on a package containing a hazardous material that is a liquid.

(1) An arrow symbol indicating "This Way Up" as specified in ANSI MH6.11968 entitled "Pictorial Marking for Handling of Goods" should be used in addition to the marking required by this section and § 173.25 of this subchapter.

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, amended by Amdt. 172-29A, 41 FR 40678, Sept. 20, 1976]

§ 172.316 Packagings containing material classed as ORM.

(a) Except as provided in § 173.505 of this subchapter, each package containing a material classed as ORM-A, B, C, or D must be plainly and durably marked on at least one side or end with the appropriate ORM designation immediately following or below the proper shipping name of the material. The appropriate ORM designation must be placed within a rectangle that is approximately ¼ inch (6.3 mm.) larger on each side than the designation. The appropriate designation for each ORM must be:

(1) ORM-A for an ORM-A.

(2) ORM-B-KEEP DRY for an ORM-B that is a solid and is corrosive only to aluminum when wet.

(3) ORM-B for an ORM-B other than that described in paragraph (a)(2) of this section.

(4) ORM-C for an ORM-C.

(5) ORM-D-AIR for an ORM-D that is prepared for air shipment and packaged in accordance with the provisions of § 173.6 of this subchapter.

(6) ORM-D for an ORM-D other than that described in paragraph (a)(5) of this section.

(b) When the ORM-D marking including the proper shipping name can not be affixed on the package surface, it may be on an attached tag.

(c) The marking ORM-A, B, C, or D is the certification by the person offering the package for transportation that the material is properly described, classed, packaged, marked, and labeled (when appropriate) and in proper condition for transportation according to the applicable regulations of the Department. This form of certification does not preclude the requirement for a certificate on a shipping paper when required by § 172.204.

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-29A, 41 FR 40678, Sept. 20, 1976]

§ 172.326 Portable tanks.

(a) A portable tank containing a hazardous material must be marked in lettering two inches (50.8 mm.) or more in height with the proper shipping name of the material. This marking must be legibly displayed, as specified in this part on two opposing sides.

(b) A portable tank marked with the name of a specific hazardous material may not be used to transport any other material unless the marking is removed, or changed to identify the hazardous material in the portable tank, whichever is appropriate.

(c) The name of the owner, or when appropriate, of the lessee, must be legibly displayed on a portable tank that contains a hazardous material.

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-29A, 41 FR 40678, Sept. 20, 1976]

§ 172.328 Cargo tanks.

(a) *Required markings: Hazardous materials other than gases.* When transporting a hazardous material other than a compressed gas, a cargo tank required by Part 173 of this subchapter to be marked with the proper shipping name of the contents must be marked as specified in this part on each end and each side.

(b) *Required markings: gases.* Each cargo tank transporting flammable or nonflammable compressed gas subject to this subchapter must be legibly marked in lettering two inches (50.8 mm.) or more in height as specified in this Part on each end and each side with—

(1) The Proper shipping name of the gas, or

(2) An appropriate common name for the material such as "Refrigerant Gas."

(c) *QT/NQT marking for MC 330 and MC 331 cargo tanks.* Each specification MC 330 and MC 331 cargo tank must be appropriately marked "QT" or "NQT" to indicate it is constructed of quenched and tempered steel (QT) or other than quenched and tempered steel (NQT). These markings must be 2 inches (50.8 mm.) or more in height and must be placed near the specification identification plate.

(d) A cargo tank marked with the name of a specific hazardous material may not be used to transport any other material unless the marking is removed, or changed to identify the hazardous material the cargo tank contains, whichever is appropriate.

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-29A, 41 FR 40678, Sept. 20, 1976]

§ 172.330 Tank cars.

(a) When required to be marked by Parts 173 or 179 of this subchapter, each tank car used to transport a hazardous material must be marked as specified in this subpart with the—(1) Proper shipping name, or

(2) Common name authorized in this subchapter for the material such as "Refrigerant Gas."

(b) The letters in required markings must be 4 inches (101.6 mm.) or more in height with at least a ⅝-inch (15.9 mm.) stroke. The separation between each letter must be at least ¾-inch (19.0 mm.).

(c) The markings must be—(1) Affixed to both sides of the tank car; and

(2) Readily visible when viewed from each side of the tank car.

(d) A tank car marked with the name of a specific hazardous material may not be used to transport any other material unless the marking is removed, or changed to identify the hazardous material the tank car contains, whichever is appropriate.

[Amdt. 172-29, 41 FR 15996, as amended by Amdt. 172-29A, 41 FR 40678, Sept. 20, 1976]

Subpart E—Labeling

§ 172.400 General labeling requirements.

(a) Except as otherwise provided in this subchapter, each person who offers a package, overpack, or freight container containing a hazardous material for transportation shall label it, when required, with labels prescribed for the material as specified in § 172.101 and in accordance with this subpart.

(b) A label is not required on a—

(1) Package for which labeling is not required under the conditions set forth in this subchapter and in this section;

(2) Cylinder containing a compressed gas classed as flammable or nonflammable that is—(i) Carried by a private or contract motor carrier;

(ii) Not overpacked; and

(iii) Durably and legibly marked in accordance with CGA Pamphlet C-7, Appendix A.

(3) Military ammunition shipped by, for, or to the U.S. Department of Defense (DOD) when in carload or truckload shipments, if loaded and unloaded by the shipper, or DOD.

(4) Package containing a hazardous material other than ammunition that is—(i) Loaded and unloaded under the supervision of DOD personnel, and

(ii) Escorted by DOD personnel in a separate vehicle.

(5) Compressed gas cylinder permanently mounted in or on a transport vehicle;

(6) Portable tank having a capacity of 1,000 gallons or more which is subject to § 172.514 or a portable tank having a capacity of less than 1,000 gallons which is placarded in accordance with § 172.514;

(7) Freight container having a volume of 640 cubic feet or more which is subject to § 172.512;

(8) Package containing a material classed as ORM-A, B, C, or D if that package does not contain any other material classed as a hazardous material that requires labeling.

(9) Package containing a combustible liquid; or

(10) Package of low specific activity radioactive material, when being transported in a transport vehicle assigned for the sole use of the consignor under § 173.392(b) of this subchapter.

(11) Cargo tank or tank car other than a multi-unit tank car tank.

(c) Provisions of paragraph (b) do not apply to the CARGO AIRCRAFT ONLY label or the MAGNETIZED MATERIAL label.

[Amdt. 172-29, 41 FR 15996, as amended by Amdt. 172-29A, 41 FR 40679, Sept. 20, 1976]

§ 172.401 Prohibited labeling.

(a) Except as provided in paragraphs (c) and (d) of this section, no person may offer for transportation and no carrier may transport any package bearing a label specified in this subpart unless—

(1) The package contains a material that is a hazardous material, and

(2) The label represents a hazard of the hazardous material in the package.

(b) No person may offer for transportation and no carrier may transport a package bearing any marking or label which by its color, design, or shape could be confused with or conflict with a label prescribed by this part.

(c) The restrictions in paragraphs (a) and (b) of this section, do not apply to packages labeled in conformance with —(1) Any United Nations recommendation, including the class number (see § 172.407), in the document entitled *"Transport of Dangerous Goods. (1970)"* or

(2) The Intergovernmental Maritime Consultative Organization (IMCO) requirements, including the class number (see § 172.407), in the document entitled "International Maritime Dangerous Goods Code"

(d) A package containing a sample of a hazardous material, other than an explosive, must be labeled in accordance with § 172.402(h).

§ 172.402 Additional labeling requirements.

(a) *Multiple labeling.* Each package containing a material meeting the definition of more than one hazard class must be labeled as follows: (1) A material classed as an Explosive A, Poison A, or Radioactive material that also meets the definition of another hazard class, must be labeled as required for each class.

(2) A Poison B liquid that also meets the definition of a Flammable liquid must be labeled POISON and FLAMMABLE LIQUID.

(3) A material classed as Oxidizer, Flammable solid or Flammable liquid that also meets the definition of a Poison B must be labeled POISON in addition to the class label.

(4) A material classed as a Flammable solid that also meets the definition of a water reactive material must have both the FLAMMABLE SOLID and DANGEROUS WHEN WET labels affixed.

(b) *CARGO AIRCRAFT ONLY label.* Each person who offers for transportation by air a package containing a hazardous material authorized only on cargo aircraft shall affix to the package a CARGO AIRCRAFT ONLY label which is described in § 172.448.

(c) *DANGEROUS WHEN WET label.* Each person who offers for transportation a package containing a hazardous material must affix to the package a DANGEROUS WHEN WET label as described in § 172.423 when required by § 172.101.

(d) *MAGNETIZED MATERIAL label.* Each person who offers for transportation by air a package meeting the definition of a magnetized material in § 173.1020 of this subchapter must affix to the package a MAGNETIZED MATERIAL label as required by § 172.101 and described in § 172.446.

(e) *BUNG label.* Each metal barrel or drum containing a flammable liquid having a vapor pressure between 16 and 40 p.s.i.a. at 100° F. must have affixed a BUNG label as specified in § 173.119(i) of this subchapter in addition to a FLAMMABLE LIQUID label described in § 172.419.

(f) *ETIOLOGIC AGENTS label.* See § 172.444 and § 173.388 of this subchapter for ETIOLOGIC AGENTS labeling requirements.

(g) *EMPTY label.* See § 173.29 of this subchapter for EMPTY labeling requirements.

(h) *Packages containing samples.* Except as provided in §§ 173.21 and 173.86 of this subchapter, a material for which a reasonable doubt exists as to its class and labeling requirements, and for which a sample must be transported for laboratory analysis may be labeled according to the shipper's tentative class assignment based upon—

(1) Defining criteria in this subchapter;

(2) The hazard precedence prescribed in § 173.2 of this subchapter; and

(3) The shipper's knowledge of the material.

(i) *Labels for DOT specification 106 and 110 tanks.* A DOT specification 106 or 110 tank must be labeled on each end as required by this subchapter for the hazardous material it contains.

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-29A, 41 FR 40679, Sept. 20, 1976]

§ 172.403 Radioactive material.

(a) Unless excepted from labeling by § 173.391 or § 173.392 of this subchapter, each package of radioactive material must be labeled as provided in this section.

(b) A RADIOACTIVE WHITE-I label must be affixed to each package measuring 0.5 millirem or less per hour at each point on the external surface of the package, provided the package—

(1) Is not a Fissile Class II or III, or

(2) Does not contain a "large quantity" of radio active material, as defined in § 173.389 of this subchapter.

(c) A RADIO ACTIVE YELLOW-II label must be affixed to each—

(1) Package measuring more than 0.5 but not more than 50 millirem per hour at each point, and not exceeding one (1.0) millirem per hours at three feet from each point on the external surface of the package.

(2) Fissile Class II package having a transport index of one (1.0) or less.

(d) A RADIOACTIVE YELLOW-III label must be affixed to each package which —

(1) Measures more than 50 millirem per hour at each point or exceeds one (1.0) millirem per hour at three feet from each point on the external surface;

(2) Is a Fissile Class III; or

(3) Contains a "large quantity" of radioactive material as defined in § 173.389 of this subchapter.

(e) Each package containing a radioactive material that also meets the definition of one or more additional hazards must be labeled as a radioactive material as required by this section and for each additional hazard. For example:

(1) Packages containing the solid nitrates of uranium or thorium must be labeled RADIOACTIVE and OXIDIZER.

(2) Packages containing nitric acid solutions of radioactive material must be labeled RADIOACTIVE and CORROSIVE.

(f) Each package required by this section to be labeled with a RADIOACTIVE label must have two of these labels, affixed to opposite sides of the package. (See § 172.406(e)(3) for freight container label requirements).

(g) The following applicable items of information must be entered in the blank spaces on the RADIOACTIVE label by legible printing (manual or mechanical), using a durable weather resistant means of marking:

(1) "Contents." The name of the radionuclides as taken from the listing of radionuclides in § 173.390 (symbols which conform to established radiation protection terminology are authorized, i.e., ^{99}Mo, ^{60}Co, etc.). For mixtures of radionuclides, the most restrictive radionuclides on the basis of radiotoxicity must be listed as space on the label allows.

(2) "Number of curies." Units shall be expressed in appropriate curie units, i.e., curies (Ci), millicuries (mCi) or microcuries (uCi) (abbreviations are authorized). For a fissile material, the weight in grams or kilograms of the fissile radioisotope also may be inserted.

(3) "Transportation index." (See § 173.389(i).)

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-29A, 41 FR 40679, Sept. 20, 1976]

§ 172.404 Labels for mixed and consolidated packaging.

(a) *Mixed packaging.* When hazardous materials having different hazard classes are packed within the same packaging, or within the same outside container or overpack as described in § 173.25 and authorized by § 173.21 of this subchapter, the packaging, outside container or overpack must be labeled as required for each class of hazardous material contained therein.

(b) *Consolidated packaging.* When two or more packages containing compatible hazardous material (see § 173.21) are placed within the same outside container or overpack, the outside container or overpack must be labeled as required for each class of hazardous material contained therein.

§ 172.405 Authorized label modifications.

(a) For a package containing Oxygen, the word "OXYGEN" may be used in the place of the word "OXIDIZER" on the OXIDIZER label provided the letter size and color for OXYGEN are the same as those required for OXIDIZER.

(b) For a package containing Chlorine, the word "CHLORINE" may be used in the place of the word "POISON" on the POISON label provided the letter size and color for CHLORINE are the same as those required for POISON; (1) A CHLORINE label may be used in place of the NON-FLAMMABLE GAS and POISON labels required for Chlorine by § 172.101.

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-29A, 41 FR 40679, Sept. 20, 1976]

§ 172.406 Placement of labels.

(a) *General.* Except as provided in paragraphs (b) and (e) of this section, each label required by this subpart must be printed on or affixed to the surface of the package near the market proper shipping name required by Subpart D of this part.

(b) *Exceptions.* Labels may be printed on or placed on a securely affixed tag, or may be affixed by other suitable means to—

(1) A package that contains no radioactive material and which has dimensions less than those of the required label;

(2) A compressed gas cylinder; and

(3) A package which has such an irregular surface that a label cannot be satisfactorily affixed.

(c) *Placement of multiple labels.* When two or more different labels are required, they must be dispayled or affixed next to each other.

(d) *Label border.* Each label must be affixed to a background of contrasting color, or must have a dotted or solid line outer border.

(e) *Additional labeling.* When labeling is required, the labels must be displayed on at least two sides or two ends (excluding the bottom) of—

(1) Each package containing a radioactive material;

(2) Each package having a volume of 64 cubic feet or more; and

(3) Each freight container having a volume of 64 cubic feet or more, but less than 640 cubic feet, except when placarded in accordance with § 172.512(b).

(i) Placarding may not be used instead of labeling on a package containing radioactive material.

(ii) When labeled, one of each of the appropriate labels must be displayed on or near the closure.

(4) Each portable tank having a rated capacity of less than 1,000 gallons, except when placarded in accordance with § 172.514(a).

(f) *Obscured labels.* A label must not be obscured by markings or attachments.

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-29A, 41 FR 40679, Sept. 20, 1976]

§ 172.407 Label specifications.

(a) Each label, affixed to or printed on a package, must be durable and weather resistant.

(b) Each diamond (square-on-point) label prescribed in this part must be at least 4 inches (101 mm.) on each side with each side having a black solid line border ¼-inch (6.3 mm.) from the edge.

(c) Except for size and color, the printing, inner border, and symbol on each label must be as shown for each label.

(d) The colors for each label must be as specified in this subpart and the specifications for each color must be as prescribed in Appendix A to this part.

(e) The specified label color must extend to the edge of the label in the area designated on each label except the CORROSIVE, MAGNETIZED MATERIAL, RADIOACTIVE YELLOW-II, and RADIOACTIVE YELLOW-III labels.

(f) A label may contain form identification information, including the name of its maker, provided that information is printed outside of the solid line inner border in no larger than 10-point type.

(g) A label may contain the United Nations and Inter-Governmental Maritime Consultative Organization (IMCO) hazard class number. The number must be—

(1) Black, unless it is on a CORROSIVE label when it must be white;

(2) Located in the lower corner of the label, and

(3) Approximately 0.25-inch (6.3 mm.) high.

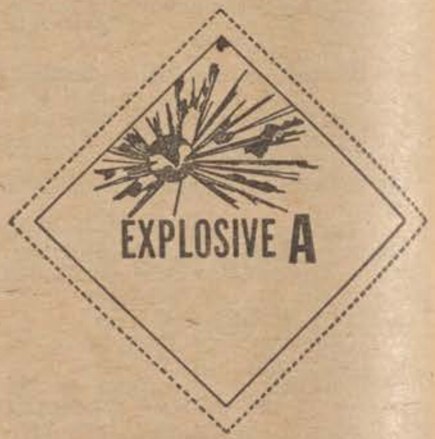
(h) For import shipments only, a label conforming to § 172.401 affixed to a package in another country may contain inscriptions required by the country of origin.

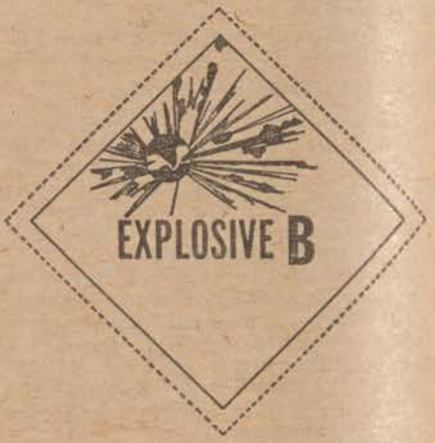
(i) The dotted line border shown on each label is not part of the label specification, except when used as an alternative for the solid line outer border to meet the requirements of § 172.406(d).

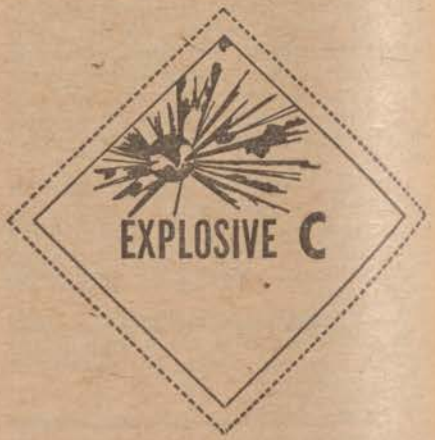
[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-29A, 41 FR 40679, Sept. 20, 1976]

§ 172.411 EXPLOSIVE A, EXPLOSIVE B, and EXPLOSIVE C labels.

(a) Except for size and color, the EXPLOSIVE A, EXPLOSIVE B, and EXPLOSIVE C labels must be as follows:



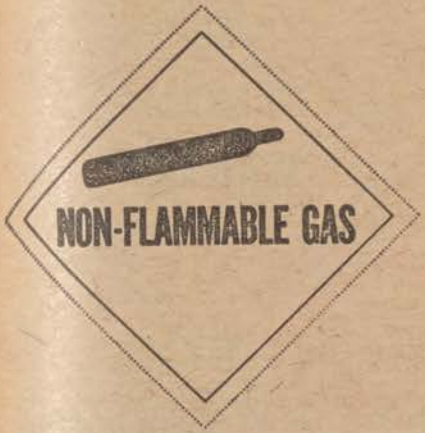




(b) In addition to complying with § 172.407, the EXPLOSIVE A, EXPLOSIVE B, and EXPLOSIVE C labels must be orange. The printing and symbol must be black.

§ 172.415 NON-FLAMMABLE GAS label.

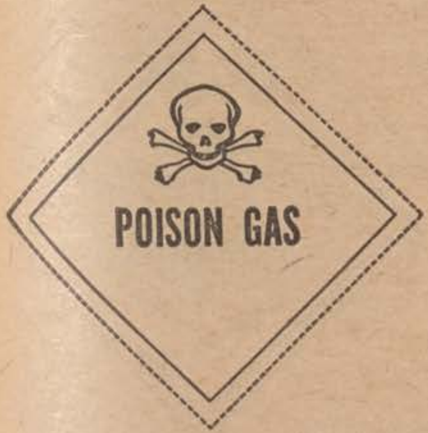
(a) Except for size and color, the NON-FLAMMABLE GAS label must be as follows:



(b) In addition to the requirements specified in § 172.407, the NON-FLAMMABLE GAS label must be green. The symbol and printing must be black.

§ 172.416 POISON GAS label.

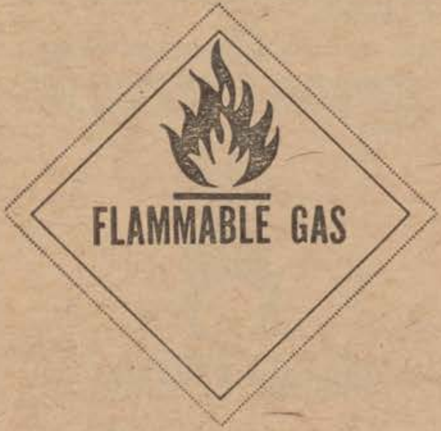
(a) Except for size and color, the POISON GAS label must be as follows:



(b) In addition to complying with § 172.407, the POISON GAS label must be white. The printing must be black, and the symbol must be black and white.

§ 172.417 FLAMMABLE GAS label.

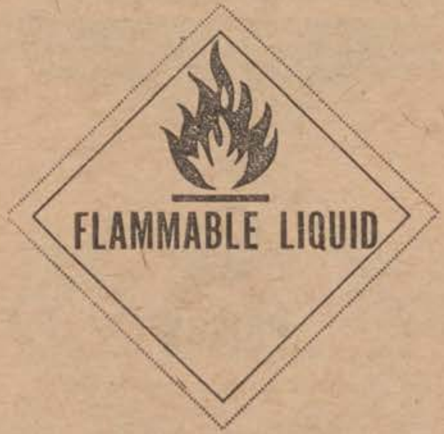
(a) Except for size and color, the FLAMMABLE GAS label must be as follows:



(b) In addition to complying with § 172.407, the FLAMMABLE GAS label must be red. The printing and symbol must be black.

§ 172.419 FLAMMABLE LIQUID label.

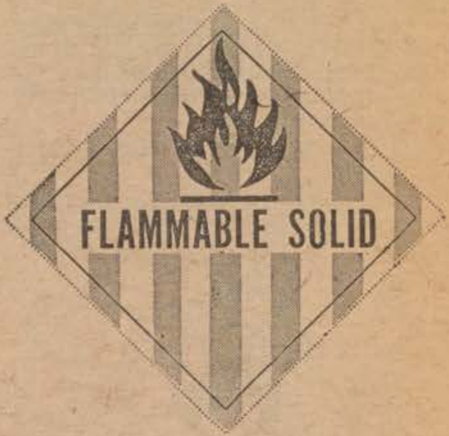
(a) Except for size and color, the FLAMMABLE LIQUID label must be as follows:



(b) In addition to complying with § 172.407, the FLAMMABLE LIQUID label must be red. The printing and symbol must be black.

§ 172.420 FLAMMABLE SOLID label.

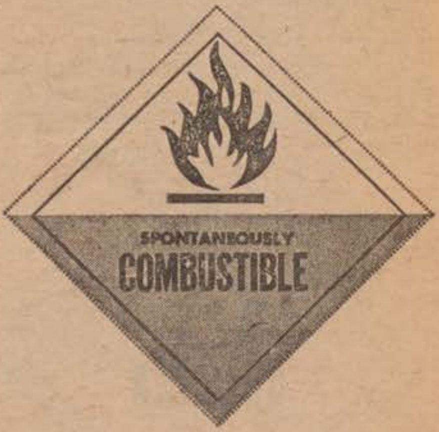
(a) Except for size and color, the FLAMMABLE SOLID label must be as follows:



(b) In addition to complying with § 172.407, the FLAMMABLE SOLID label must be white with vertical red stripes equally spaced on each side of a red stripin the center of the label. The rectangle for the words "FLAMMABLE SOLID" must be white. The printing and symbol must be black with the symbol overprinted. The words "FLAMMABLE SOLID" must not contact any red stripe. The white stripes must be sufficiently wider than the red stripes to make them appear visually equal in width.

§ 172.422 SPONTANEOUSLY COMBUSTIBLE label.

(a) Except for size and color, the SPONTANEOUSLY COMBUSTIBLE label must be as follows:

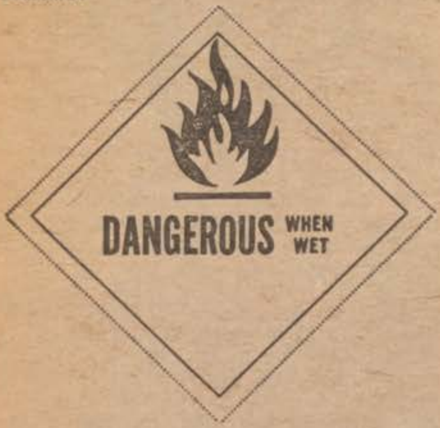


(b) In addition to complying with § 172.407, the SPONTANEOUSLY COMBUSTIBLE label must be red in the lower half and white in the upper half. The symbol and printing must be black.

(c) If use of the SPONTANEOUSLY COMBUSTIBLE label is required by the regulations of another country, it may be used in addition to the labels required by §§ 172.400 and 172.402.

§ 172.423 DANGEROUS WHEN WET label.

(a) Except for size and color, the DANGEROUS WHEN WET label must be as follows:

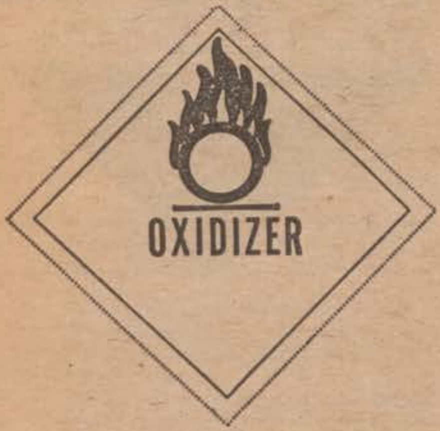


(b) In addition to complying with § 172.407, the DANGEROUS WHEN WET LABEL must be blue. The printing and symbol must be black.

(c) If use of the DANGEROUS WHEN WET label is required by the regulations of another country, it may be used in addition to the labels required by §§ 172.400 and 172.402.

§ 172.426 OXIDIZER label.

(a) Except for size and color, the OXIDIZER label must be as follows (see § 172.405 for authorized label modification):

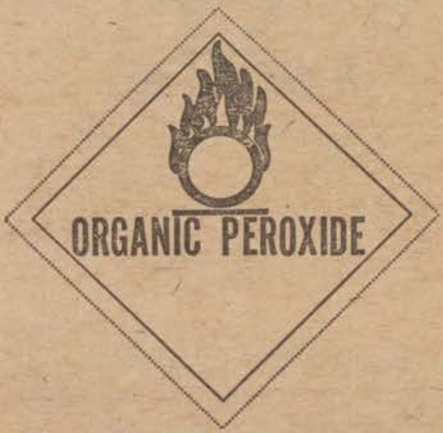


(b) In addition to complying with § 172.407, the OXIDIZER label must be yellow. The printing and symbol must be black.

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-29A, 41 FR 40679, Sept. 20, 1976]

§ 172.427 ORGANIC PEROXIDE label.

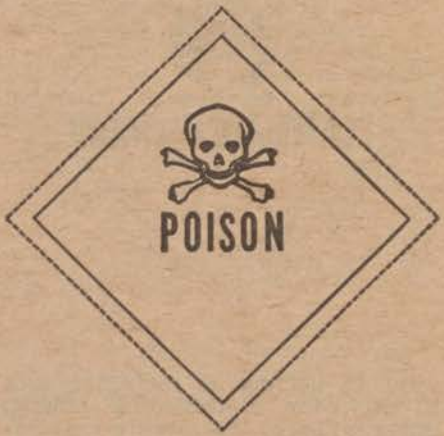
(a) Except for size and color, the ORGANIC PEROXIDE label must be as follows:



(b) In addition to complying with § 172.407, the ORGANIC PEROXIDE label must be yellow. The printing and symbol must be black.

§ 172.430 POISON label.

(a) Except for size and color, the POISON label must be as follows (see § 172.405 for authorized label modification):

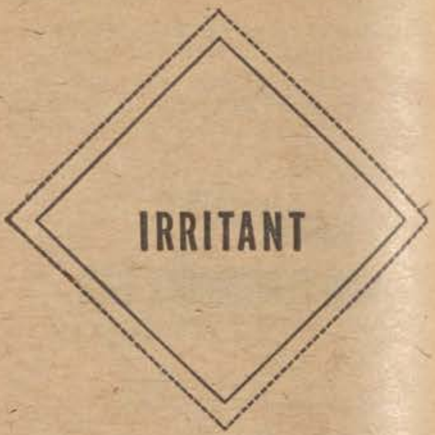


(b) In addition to complying with § 172.407, the POISON label must be white. The printing and symbol must be black.

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-29A, 41 FR 40679, Sept. 20, 1976]

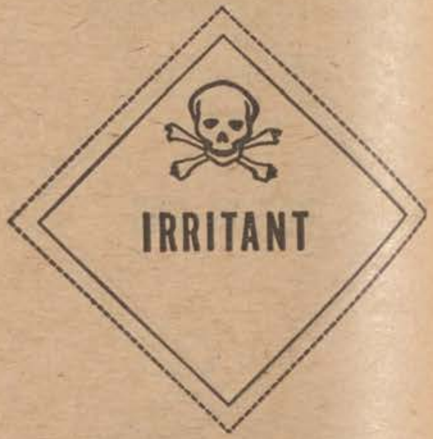
§ 172.432 IRRITANT label.

(a) Except for size and color, the IRRITANT label must be as follows:



(b) In addition to complying with § 172.407, the IRRITANT label must be white. The word "IRRITANT" must be red.

(c) For export shipments, if use of the following label is required for irritants by the regulations of another country, it may be used in place of the label for irritants required by § 172.400 and described in § 172.432. In addition to complying with § 172.407, this label for irritant, except for size and color, must be as follows:

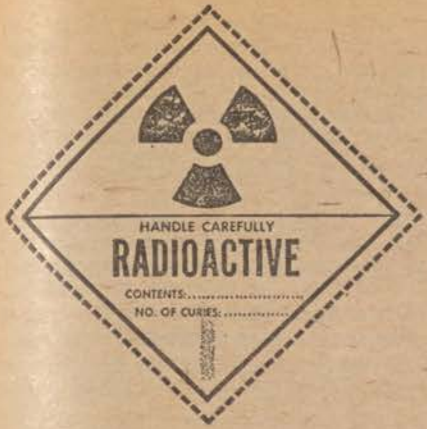


(d) The printing and symbol must be black on a white background.

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-29A, 41 FR 40679, Sept. 20, 1976]

§ 172.436 RADIOACTIVE WHITE-I label.

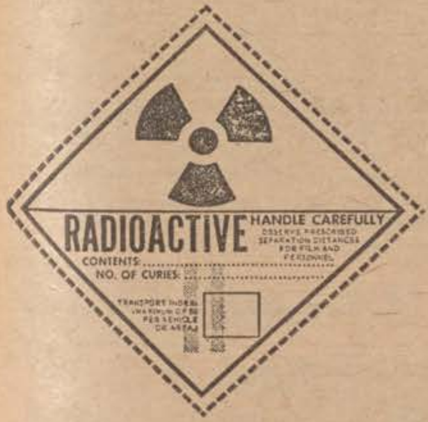
(a) Except for size and color, the RADIOACTIVE WHITE-I label, must be as follows:



(b) In addition to complying with § 172.407, the RADIOACTIVE WHITE-I label must be white. The printing and symbol must be black except for the "I" which must be red.

§ 172.438 RADIOACTIVE YELLOW-II label.

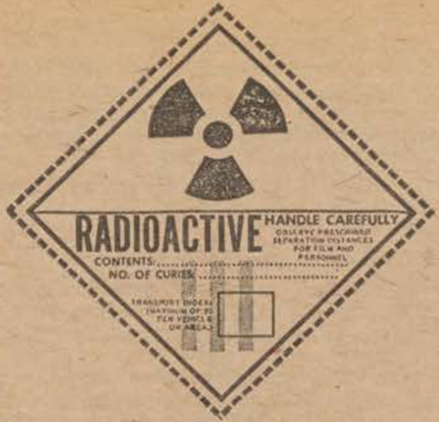
(a) Except for size and color, the RADIOACTIVE YELLOW-II label, must be as follows:



(b) In addition to complying with § 172.407, the RADIOACTIVE YELLOW-II label must be yellow in the top half and white in the lower half. The printing and symbol must be black, except for the "II" which must be red.

§ 172.440 RADIOACTIVE YELLOW-III label.

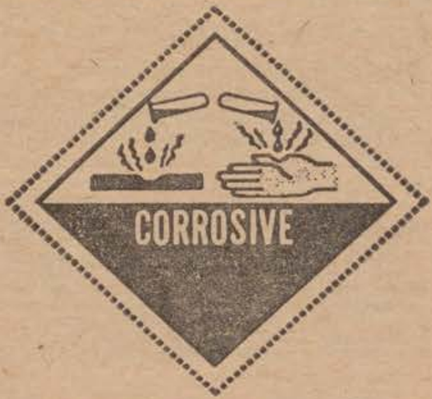
(a) Except for the size and color, the RADIOACTIVE YELLOW-III label must be as follows:



(b) In addition to complying with § 172.407, the RADIOACTIVE YELLOW-III label must be yellow in the top half and white in the lower half. The printing and symbol must be black, except for the "III" which must be red.

§ 172.442 CORROSIVE label.

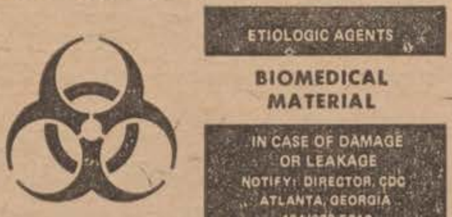
(a) Except for size and color, the CORROSIVE label must be as follows:



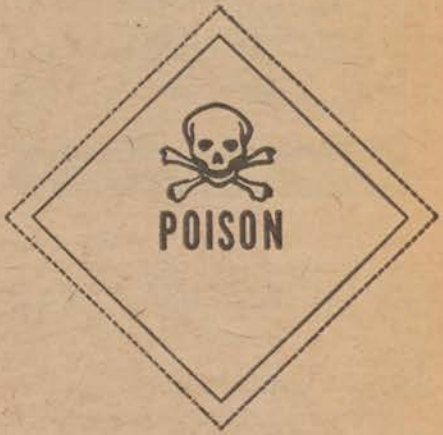
(b) In addition to complying with § 172.407, the CORROSIVE label must be white in the top half and black in the lower half. The printing must be white and the symbol must be black and white.

§ 172.444 ETIOLOGIC AGENT label.

(a) Each package containing an Etiologic agent subject to this subchapter must be labeled as specified in § 173.388 of this subchapter.



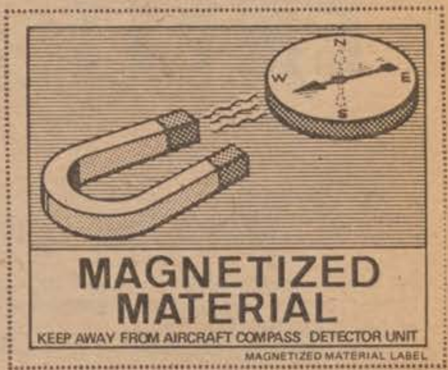
(b) For export shipments, if use of the following label is required by the regulations of another country, it may be used in addition to the label required in paragraph (a) of this section for Etiologic agents. In addition to complying with § 172.407, this additional label for Etiologic agents, except for size and color, must be as follows:



(c) The printing and symbol must be black on a white background.

§ 172.446 MAGNETIZED MATERIAL label.

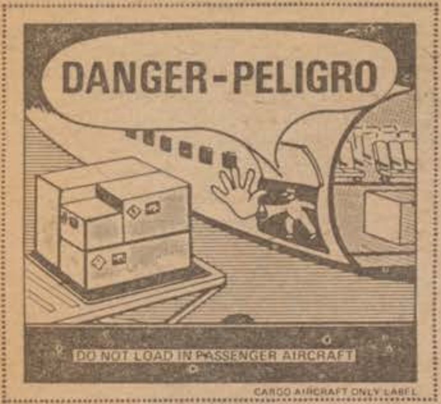
(a) Except for size and color, the MAGNETIZED MATERIAL label including the label name in the lower border must be as follows:


N
W
E
S
MAGNETIZED MATERIAL
KEEP AWAY FROM AIRCRAFT COMPASS DETECTOR UNIT
MAGNETIZED MATERIAL LABEL

(b) The MAGNETIZED MATERIAL label must be a rectangle measuring $3\frac{9}{16}$ inches (90 mm.) high and $4\frac{5}{16}$ inches (110 mm.) wide. The printing must be blue and the symbol must be white and blue.

§ 172.448 CARGO AIRCRAFT ONLY label.

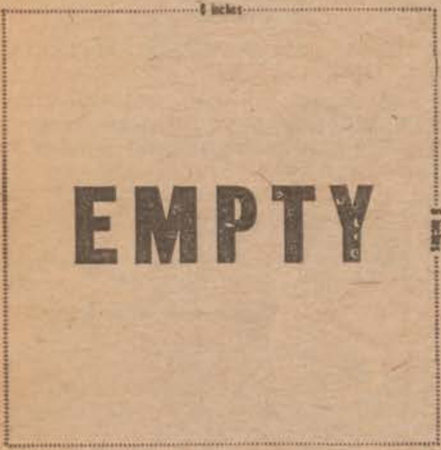
(a) Except for size and color, the CARGO AIRCRAFT ONLY (DANGER—PELIGRO) label including the label name in the lower border must be as follows:



(b) The CARGO AIRCRAFT ONLY label must be a rectangle measuring 4⅜ inches (110 mm.) high by 4¾ inches (120 mm.) wide. The printing must be black and the symbol must be black and orange.

§ 172.450 EMPTY label.

(a) Each EMPTY label, except for size, must be as follows:



(1) Each side must be at least 6 inches (152 mm.) with each letter at least 1 inch (25.4 mm.) in height.

(2) The label must be white with black printing.

Subpart F—Placarding

EFFECTIVE DATE NOTE: The new placarding requirements provided in Subpart F of this Part, need not be complied with until July 1, 1977, except that compliance with the placarding requirements issued under Docket HM-102 (39 FR 1768, January 24, 1974; 40 FR 57433, December 10, 1975) pertaining to tank cars containing combustible liquids is required on or after January 1, 1977.

§ 172.500 Applicability of placarding requirements.

(a) Each person who offers for transportation or transports any hazardous material subject to this subchapter shall comply with the applicable placarding requirements of this subpart.

(b) This subpart does not apply to—

(1) Etiologic agents,

(2) Hazardous materials classed as ORM-A, B, C, or D, or

(3) Hazardous materials authorized by this subchapter to be offered for transportation as Limited Quantities when identified as such on shipping papers in accordance with § 172.203(b).

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-29A, 41 FR 40679, Sept. 20, 1976]

§ 172.502 Prohibited placarding.

(a) No person may affix or display on a portable tank, freight container, motor vehicle, or rail car any placard described in this subpart unless—

(1) The material being offered or transported is a hazardous material, and

(2) The placard represents a hazard of the hazardous material being offered or transported.

(b) No person may affix or display any sign or other device on a motor vehicle, rail car, portable tank, or freight container, that by its color, design, shape, or content could be confused with any placard prescribed in this subpart.

§ 172.504 General placarding requirements.

(a) Except as otherwise provided in this subchapter, each motor vehicle and rail car containing any quantity of a hazardous material must be placarded on each end and each side with the type of placards specified in the following tables and other placarding requirements of this subpart, including the specifications for the placards named in the tables and described in detail in §§ 172.519 through 172.558.

TABLE 1

If the motor vehicle or rail car contains a material classed (described) as—	The motor vehicle or rail car must be placarded on each side and each end—
Class A explosives	EXPLOSIVES A.[1]
Class B explosives	EXPLOSIVES B.[2]
Poison A	POISON GAS.[1]
Flammable solid (DANGEROUS WHEN WET label only).	FLAMMABLE SOLID W.[3]
Radioactive material	RADIOACTIVE.[4][5]
Radioactive material:	
Uranium hexafluoride, fissile (containing more than 0.7 pct U^{235}).	RADIOACTIVE AND CORROSIVE.
Uranium hexafluoride, low specific activity (containing 0.7 pct or less U^{235}).	RADIOACTIVE AND CORROSIVE.

[1] See sec. 172.510(a).

[2] EXPLOSIVES B placard not required if the freight container, motor vehicle, or rail car contains class A explosives and is placarded EXPLOSIVES A as required.

[3] FLAMMABLE SOLIDW placard is required only when the DANGEROUS WHEN WET label is
[3] FLAMMABLE SOLIDW placard is required only when the DANGEROUS WHEN WET label is
[3] FLAMMABLE SOLIDW placard is required only when the DANGEROUS WHEN WET label is specified in sec. 172.101 for a material classed as a Flammable Solid.

[4] Applies only to any quantity of packages bearing the RADIOACTIVE Yellow III label. (See secs. 173.399 and 172.403 of this subchapter.)

[5] See secs. 173.389(c) and 173.389(o), for full-load shipments of radioactive materials meeting the definition of low specific activity when transported pursuant to sec. 173.392(b).

TABLE 2

If the motor vehicle or rail car contains a material classed (described) as—	The motor vehicle or rail car must be placarded on each side and each end—
Class C explosives	FLAMMABLE.[1]
Nonflammable gas	NONFLAMMABLE GAS.
Nonflammable gas (Chlorine)	CHLORINE.[7]
Nonflammable fas (Fluorine)	POISON.
Nonflammable gas (oxygen, pressurized liquid)	OXYGEN.[2]
Flammable gas	FLAMMABLE GAS.
Combustible liquid	COMBUSTIBLE.[3][4]
Flammable liquid	FLAMMABLE.
Flammable solid	FLAMMABLE SOLID.[5]
Oxidizer	OXIDIZER.
Organic peroxide	ORGANIC PEROXIDE.
Poison B	POISON.
Corrosive material	CORROSIVE.[6]
Irritating material	DANGEROUS.

[1] Applies only to a class C explosive required to be labeled with an EXPLOSIVE C label.

[2] OXYGEN placards may be used to identify liquefied pressurized oxygen contained in a manner so it does not meet the definition in sec. 173.300 of this subchapter.

[3] COMBUSTIBLE placard required only when a material classed as a combustible liquid is transported in a packaging having a rated capacity of more than 110 gallons, a cargo tank, or a tank car.

[4] A FLAMMABLE placard may be used on a cargo tank and a portable tank during transportation by highway and water.

[5] Except when offered for transportation by water, a FLAMMABLE placard may be displayed in place of a FLAMMABLE SOLID placard except when a DANGEROUS WHEN WET label is specified for the material in sec. 172.101. (See table 1, this section.)

[6] Not required for a material that is corrosive only to steel as defined in § 173.240 of this subchapter when transported in a portable tank, cargo tank or tank car by rail or highway.

[7] CHLORINE placard required only for a packaging having a rated capacity of more than 110 gallons; the NON-FLAMMABLE GAS placard for packagings having a rated capacity of 110 gallons or less.

(b) A freight container, motor vehicle, or rail car containing two or more classes of materials requiring different placards specified in Table 2 may be placarded DANGEROUS in place of the separate placarding specified for each of those classes of material specified in Table 2. However, when 5,000 pounds or more of one class of material is loaded therein at one loading facility, the placard specified for that class in Table 2 must be applied. This paragraph does not apply to a portable tank, cargo tank, or tank car.

(c) No placard is required on a—

(1) Motor vehicle containing less than 1,000 pounds (aggregate gross weight) of one or more materials covered by Table (2), or

(2) Rail car loaded with freight containers or motor vehicles when each freight container or motor vehicle contains less than 1,000 pounds (aggregate gross weight) of one or more materials, covered by Table (2).

This paragraph does not apply to portable tanks, cargo tanks, or tank cars or to transportation by air or water.

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-29A, 41 FR 40679, Sept. 20, 1976.]

§ 172.506 Providing and affixing placards: highway.

(a) Each person offering a motor carrier a hazardous material for transportation by highway shall provide to the motor carrier the required placards for the material being offered prior to or at the same time the material is offered for transportation, unless the carrier's motor vehicle is already placarded for the material as required by this subpart.

(1) No motor carrier may transport a hazardous material in a motor vehicle, unless the placards required for the hazardous material are affixed thereto as required by this subpart.

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-29A, 41 FR 40679, Sept. 20, 1976]

§ 172.508 Providing and affixing placards: rail.

(a) Each person offering a hazardous material for transportation by rail shall affix to the rail car containing the material, the placards specified by this subpart for the material unless the placards already displayed on motor vehicles, transport containers, or portable tanks that are on the rail car comply with § 172.502 as it pertains to placarding the rail car.

(b) No rail carrier may accept a rail car containing a hazardous material for transportation unless the placards for the hazardous material are affixed thereto as required by this subpart.

§ 172.510 Special placarding provisions: rail.

(a) *Square background required.* Each Explosive A placard, Poison Gas placard and POISON GAS—EMPTY, placard affixed to a rail car must be placed on a square background as described in § 172.527.

(b) *DOME placard.* Each domed tank car containing a flammable liquid having a vapor pressure exceeding 16 p.s.i. at 100° F. (37.8° C.) must have a DOME placard affixed thereto as specified in § 173.119(h) of this subchapter.

(c) *EMPTY placard.* Each empty tank car must be placarded with an EMPTY placard as required and described in § 172.525 or paragraph (a) of this section, as appropriate, that corresponds to the placard that was required for the material the tank car last contained unless the tank car last contained a Combustible liquid or has been—

(1) Reloaded with a material not subject to this subchapter; or

(2) Sufficiently cleaned of residue and purged of vapor to remove any potential hazard.

(d) *FUMIGATION placard.* Each freight container, motor vehicle, and rail car containing lading that has been fumigated or treated with poisonous liquid, solid, or gas, and that is offered for transportation by rail must have the placard specified in § 173.426 of this subchapter affixed on or near each door.

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-29A, 41 FR 40680, Sept. 20, 1976]

§ 172.512 Freight container.

(a) *Capacity of 640 cubic feet or more.* Each person who offers for transportation a hazardous material in a freight container having a capacity of 640 cubic feet or more shall affix to the freight container the placards specified for the material in accordance with § 172.504 according to the following table:

Freight container placarding table

When the mode(s) of transportation will be—				Use placards required by this subpart for—
Highway	Rail	Air	Water	
×				Highway.[1]
	×			Rail.[1]
×	×			Do.
×	×	×		Rail.[2]
×	×	×	×	Do.
×	×		×	Do.
×			×	Highway.[3]
×		×		Do.
×		×	×	Do.
	×	×		Rail.[2]
	×		×	Do.
	×	×	×	Do.
		×		Highway.[3]
		×	×	Do.
			×	Highway.

[1] Placarding exception for motor vehicles in § 172.504(c) applies.

[2] Placarding exception for motor vehicles in § 172.504(c) does not apply.

[3] Placarding exception for motor vehicles in § 172.504(c) applies following an air or water shipment immediately before delivery to a consignee.

(b) *Capacity less than 640 cubic feet.* Each person who offers for transportation by air a hazardous material in a freight container having a capacity of less than 640 cubic feet shall affix one placard of the type specified by paragraph (a) of this section unless the freight container is labeled in accordance with § 172.405, or contains radioactive materials requiring the RADIOACTIVE YELLOW III label and is placarded with one RADIOACTIVE placard and is labeled in accordance with § 172.406(e). When hazardous materials are offered for transportation, not involving air transportation, in a freight container having a capacity of less than 640 cubic feet, the freight container need not be placarded. However, it must be labeled in accordance with Subpart E of this part.

(c) Notwithstanding paragraphs (a) and (b) of this section, packages containing hazardous materials, other than ORM-D, offered for transportation by air in freight containers are subject to the inspection requirements of § 175.30 of this chapter.

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-29A, 41 FR 40680, Sept. 20, 1976]

§ 172.514 Cargo tanks and portable tanks.

(a) Each person who offers for transportation a cargo tank or a portable tank containing a hazardous material shall affix the placards specified for the material in accordance with § 172.504. However, if placarded instead of labeled as provided in § 172.406(e)(4), a portable tank having a rated capacity of less than 1,000 gallons need be placarded on only two opposite sides.

(b) Each cargo tank and portable tank that is required to be placarded when it contains a hazardous material must remain placarded when it is emptied unless it is—

(1) Reloaded with a material not subject to this subchapter; or

(2) Sufficiently cleaned and purged of vapors to remove any potential hazard.

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-29A, 41 FR 40680, Sept. 20, 1976]

§ 172.516 Visibility and display of placards.

(a) Each placard on a motor vehicle and each placard on a rail car must be readily visible from the direction it faces except from the direction of another motor vehicle or rail car to which the motor vehicle or rail car is coupled. This requirement may be met by the placards displayed on the freight containers or portable tanks loaded on a motor vehicle or rail car.

(b) The required placarding of the front of a motor vehicle may be on the front of a truck-tractor instead of or in addition to the placarding on the front of the cargo body to which a truck-tractor is attached.

(c) Each placard on a transport vehicle, portable tank or freight container must—

(1) Be securely attached or affixed thereto or placed in a holder thereon. (See Appendix C to this part.)

(2) Be located clear of appurtenances and devices such as ladders, pipes, doors, and tarpaulins;

(3) So far as practicable, be located so that dirt or water is not directed to it from the wheels of the transport vehicle;

(4) Be located away from any marking (such as advertising) that could substantially reduce its effectiveness, and in

any case at least 3 inches (76.0 mm.) away from such marking.

(5) Have the words printed on it displayed horizontally, reading from left to right;

(6) Be maintained by the carrier in a condition so that the format, legibility, color, and visibility of the placard will not be substantially reduced due to damage, deterioration, or obscurement by dirt or other matter.

(d) Recommended specifications for a placard holder are set forth in Appendix C of this part. Except for a placard holder similar to that contained in Appendix C to this part, the means used to attach a placard may not obscure any part of its surface other than the borders.

(e) A placard or placard holder may be hinged provided the required format, color, and legibility of the placard are maintained.

§ 172.519 General specifications for placards.

(a) A placard may be made of any plastic, metal, or other material that is equal to or better in strength and durability than the tagboard specified in paragraph (b) of this section. Also, reflective or retroreflective materials may be used on a placard providing the prescribed colors, strength and durability are maintained.

(b) A placard made of tagboard must be of material that has—

(1) A quality at least equal to that designated commercially as white tagboard;

(2) A weight of 125 pounds per ream of 24 by 36-inch sheets;

(3) The ability to pass a 60 p.s.i. Mullen test; and

(4) The ability to withstand open weather exposure for 30 days without a substantial reduction in effectiveness.

(c) A placard may contain form identification information, including the name of its maker if that information is printed in the outer ½-inch (12.7 mm.) border in no larger than 10-point type.

(d) The hazard class and division number prescribed for dangerous goods in the United Nations Recommendations entitled "Transport of Dangerous Goods (1970)" may be entered on each placard in the lower corner of the diamond. The numerals should be approximately 0.75-inch (19.0 mm.) in height and black on each placard except the NON-FLAMMABLE GAS, FLAMMABLE GAS and CORROSIVE placards. The numbers on the NON-FLAMMABLE GAS, FLAMMABLE GAS and FLAMMABLE placards may be white, and numbers on the CORROSIVE placards should be white.

(e) The color for each placard must be as specified in this subpart and the specifications for each color must be as prescribed in Appendix A to this part.

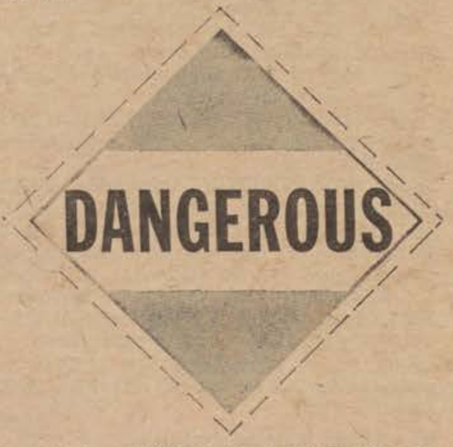
(f) Dimensional specifications for placards are prescribed in Appendix B to this part.

(g) The dotted line at the outside of the ½-inch (12.7 mm.) white border on each placard is not part of the placard specification. However, a dotted or solid line outer border may be used when needed to indicate the full size of a placard that is part of a larger format or is on a background the color of which does not contrast with the placard color.

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-29A, 41 FR 40680, Sept. 20, 1976]

§ 172.521 DANGEROUS placard.

(a) Except for size and color, the DANGEROUS placard must be as follows:

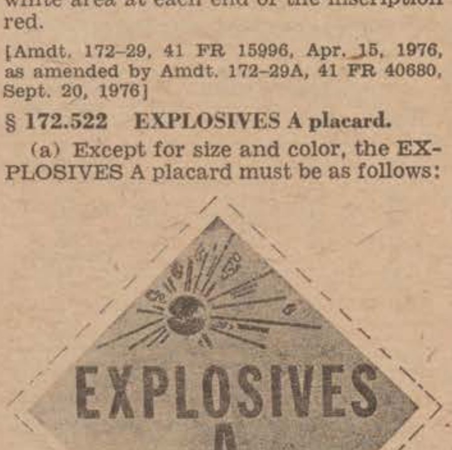


(b) In addition to meeting the requirements of § 172.519, and Appendix B to this part, the DANGEROUS placard must have a red upper and lower triangle. The placard center area and ½-inch (12.7 mm.) border must be white. The inscription must be black with the ⅛-inch (3.2 mm.) border marker in the white area at each end of the inscription red.

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-29A, 41 FR 40680, Sept. 20, 1976]

§ 172.522 EXPLOSIVES A placard.

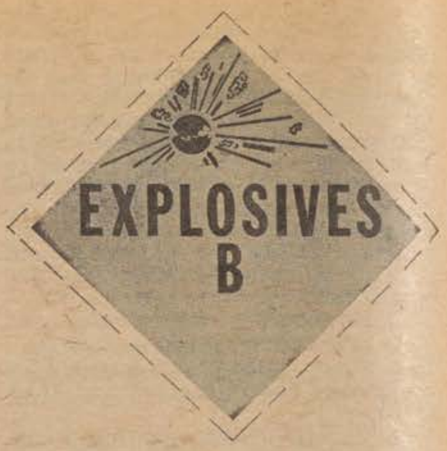
(a) Except for size and color, the EXPLOSIVES A placard must be as follows:



(b) In addition to meeting the requirements of § 172.519, and Appendix B to this Part, the EXPLOSIVES A placard must be orange with a ½ inch (12.7 mm.) white outer border. The symbol and print must be black.

§ 172.524 EXPLOSIVES B placard.

(a) Except for size and color, the EXPLOSIVES B placard must be as follows:



(b) In addition to meeting the requirements § 172.519, and this part, the EXPLOSIVES B placard must be orange with a ½-inch (12.7 mm.) white outer border. The symbol and print must be black.

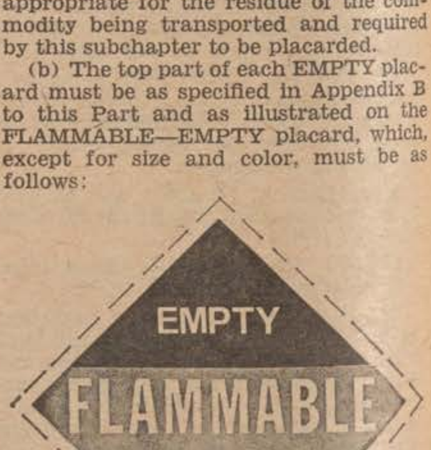
§ 172.525 Standard requirements for the EMPTY placard.

(a) Each EMPTY placard must be as follows:

(1) The triangle at the top of the placard must be black. The word "EMPTY" must be white.

(2) The midsection and lower triangle on the EMPTY placard must be as specified in § 172.519 and Appendix B to this part, and §§ 172.528, 172.530, 172.532, 172.536, 172.540, 172.542, 172.546, 172.548, 172.550, 172.552, 172.554, and 172.558 as appropriate for the residue of the commodity being transported and required by this subchapter to be placarded.

(b) The top part of each EMPTY placard must be as specified in Appendix B to this Part and as illustrated on the FLAMMABLE—EMPTY placard, which, except for size and color, must be as follows:



(c) The EMPTY placard must be as shown in paragraph (b) of this section and may be—

(1) A separate placard;

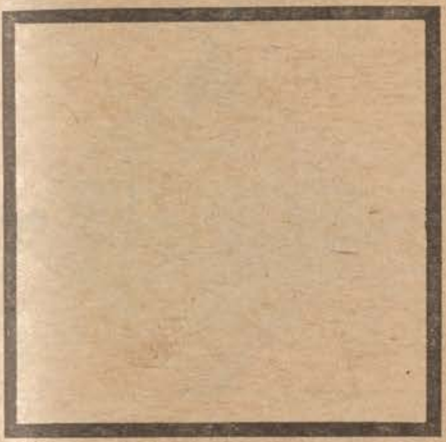
(2) On the reverse side of a placard, or

(3) A composite made by covering the top triangle of the appropriate placard with a black triangle bearing the word "EMPTY" in white letters.

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-29A, 41 FR 40680, Sept. 20, 1976]

§ 172.527 Background requirements for certain placards on rail cars.

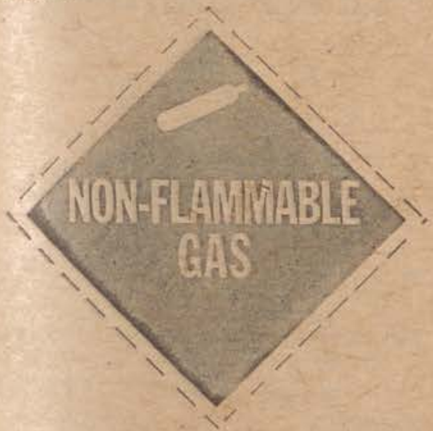
(a) Except for size and color, the square background required by § 172.510 (a) for certain placards on rail cars must be as follows:



(b) In addition to meeting the requirements of § 172.519 for minimum durability and strength, the square background must consist of a white square measuring 14¼ inches (362.0 mm.) on each side surrounded by a black border extending to 15¼ inches (387.0 mm.) on each side.

§ 172.528 NON-FLAMMABLE GAS placard.

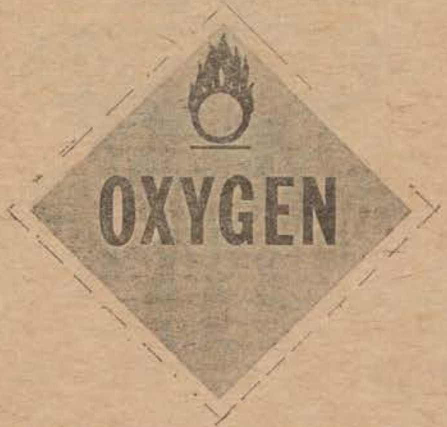
(a) Except for size and color, the NON-FLAMMABLE GAS placard must be as follows:



(b) In addition to meeting the requirement of § 172.519, and Appendix B to this Part, the NON-FLAMMABLE GAS placard must be green with the symbol, inscription, and ½ inch (12.7 mm.) border white.

§ 172.530 OXYGEN placard.

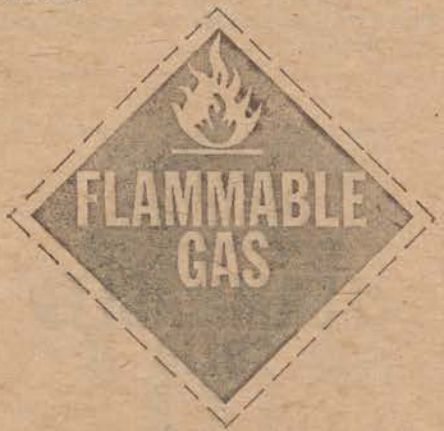
(a) Except for size and color, the OXYGEN placard must be as follows:



(b) In addition to meeting the requirements of § 172.519, and Appendix B to this Part, the OXYGEN placard must be yellow with ½ inch (12.7 mm.) white border. The symbol and inscription must be black.

§ 172.532 FLAMMABLE GAS placard.

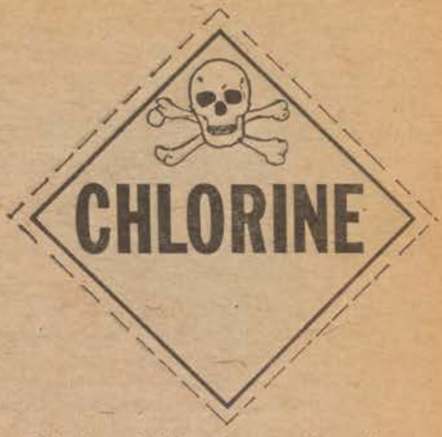
(a) Except for size and color, the FLAMMABLE GAS placard must be as follows:



(b) In addition to meeting the requirements of § 172.519, and Appendix B to this Part, the FLAMMABLE GAS placard must be red with the symbol, inscription, and ½ inch (12.7 mm.) border white.

§ 172.536 CHLORINE placard.

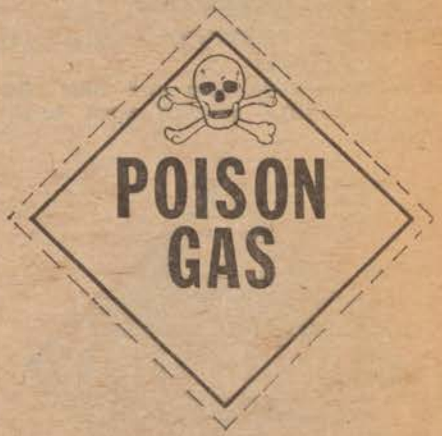
(a) Except for size, the CHLORINE placard must be as follows:



(b) In addition to meeting the requirements of § 172.519, and Appendix B to this part, the CHLORINE placard must be a white 10¾ inches (273.0 mm.) square-on-point with a ⅛-inch (3.2 mm.) black solid line border ½-inch (12.7 mm.) in from each edge. The symbol and inscription must be black.

§ 172.540 POISON GAS placard.

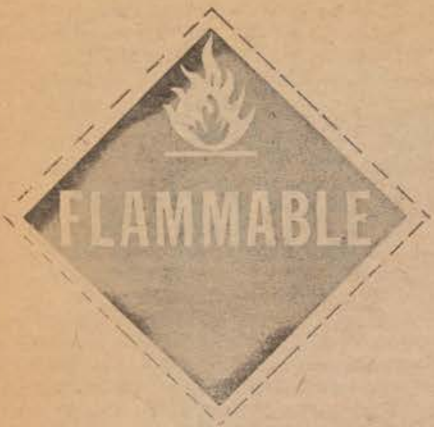
(a) Except for size, the POISON GAS placard must be as follows:



(b) In addition to meeting the requirements of § 172.519, and Appendix B to this part, the POISON GAS placard must be a white 10¾ inches (273.0 mm.) square-on-point with a ⅛-inch (3.2 mm.) black solid line border ½-inch (12.7 mm.) in from each edge. The symbol and inscription must be black.

§ 172.542 FLAMMABLE placard and modification.

(a) Except for size and color, the FLAMMABLE placard must be as follows:

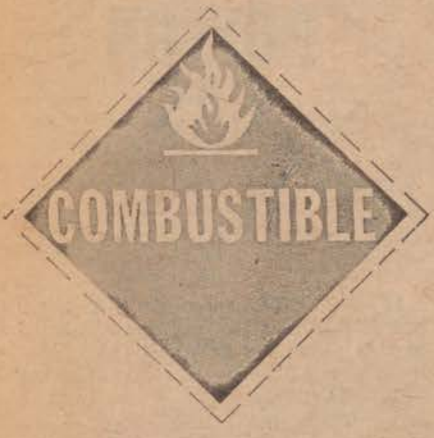


(b) In addition to meeting the requirements of § 172.519, and Appendix B to this part the FLAMMABLE placard must be red with white symbol, inscription, and ½-inch (12.7 mm.) border.

(c) The word "GASOLINE" may be used in place of the word "FLAMMABLE" on the placard that is displayed on a cargo tank or portable tank being used to transport gasoline by highway. The word "GASOLINE" must be in letters of the same size and color as those in the word "FLAMMABLE."

§ 172.544 COMBUSTIBLE placard and modification.

(a) Except for size and color, the COMBUSTIBLE placard must be as follows:

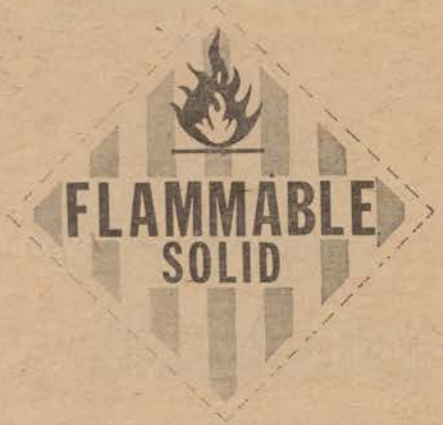


(b) In addition to meeting the requirements of § 172.519, and Appendix B to this part, the COMBUSTIBLE placard must be red with white symbol, inscription, and ½-inch (12.7 mm.) border.

(c) The words "FUEL OIL" may be used in place of the word "COMBUSTIBLE" on the placard that is displayed on a cargo tank or portable tank being used to transport by highway fuel oil that is not classed as a flammable liquid. The words "FUEL OIL" must be in letters of the same size and color as those in the word "COMBUSTIBLE."

§ 172.546 FLAMMABLE SOLID placard.

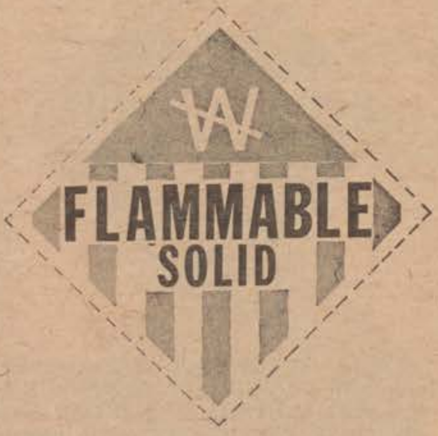
(a) Except for size and color, the FLAMMABLE SOLID placard must be as follows:



(b) In addition to complying with § 172.519 and Appendix B to this part the FLAMMABLE SOLID placard must be white with seven vertical red stripes and a ½-inch (12.7 mm.) white border. The symbol and inscription must be black.

§ 172.548 FLAMMABLE SOLID W placard.

(a) Except for size and color, the FLAMMABLE SOLID W placard must be as follows:



(b)(1) The triangle at the top of the FLAMMABLE SOLID W placard must be blue with a white symbol, otherwise, the specifications for the FLAMMABLE SOLID W placard are the same as those for the FLAMMABLE SOLID placard.

(2) The FLAMMABLE SOLID W placard may be:

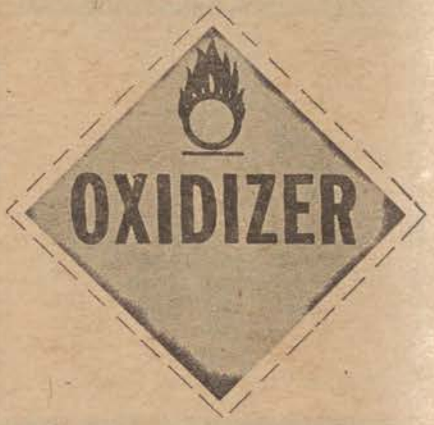
(i) A separate placard;

(ii) On the reverse side of a placard; or

(iii) A composite made by covering the top triangle of the FLAMMABLE SOLID placard with the blue triangle and white symbol as shown in paragraph (a) of this section.

§ 172.550 OXIDIZER placard.

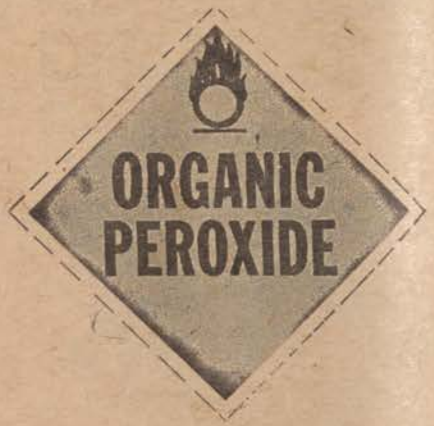
(a) Except for size and color, the OXIDIZER placard must be as follows:



(b) In addition to meeting the requirements of § 172.519, and Appendix B to this part, the OXIDIZER placard must be yellow with a ½-inch (12.7 mm.) white border. The symbol and inscription must be black.

§ 172.552 ORGANIC PEROXIDE placard.

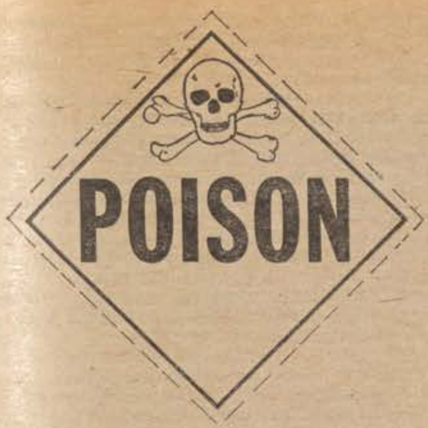
(a) Except for size and color, the ORGANIC PEROXIDE placard must be as follows:



(b) In addition to meeting the requirements of § 172.519, and Appendix B to this part the ORGANIC PEROXIDE placard must be yellow with a ½-inch (12.7 mm.) white border. The symbol and inscription must be black.

§ 172.554 POISON placard.

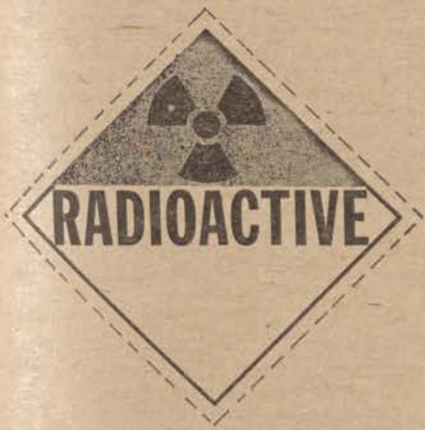
(a) Except for size, the POISON placard must be as follows:



(b) In addition to meeting the requirements of § 172.519, and Appendix B to this Part, the POISON placard must be white with a ⅛-inch (3.2 mm.) black solid line border ½-inch (12.7 mm.) in from the edge. The symbol and inscription must be black.

§ 172.556 RADIOACTIVE placard.

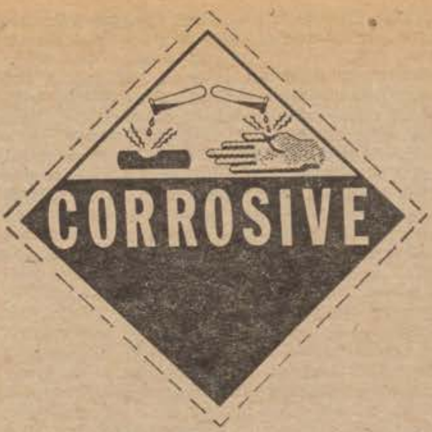
(a) Except for size and color, the RADIOACTIVE placard must be as follows:



(b) In addition to meeting the requirements of § 172.519, and Appendix B to this part, the RADIOACTIVE placard must have the top portion yellow with the symbol black. The lower portion must be white and the inscription black.

§ 172.558 CORROSIVE placard.

(a) Except for size, the CORROSIVE placard must be as follows:



(b) In addition to meeting the requirements of § 172.519, and Appendix B to this part, the CORROSIVE placard must have the center and lower area black except for the letters in the word "CORROSIVE" which must be white. The symbol must be black and white.

APPENDIX A: SPECIFICATIONS FOR COLORS

Specifications for colors[1] (in Munsell notations) on labels and placards are as follows:

TABLE 1.—*Paint, lacquer, enamel, and plastic color specifications*

Color	Central	Tolerances					
		Hue +	Hue −	Value +	Value −	Chroma[1] +	Chroma[2] − −
Red	7.5R 4.0/14	8.5R	6.5R	4.5/	3.5/	/16	/12
Orange	5.0YR 6.0/15	6.25YR	3.75YR	6.5/	5.5/	/16	/13
Yellow	5.0Y 8.0/12	6.5Y	3.5Y	8.5/	7.5/	/14	/10
Green	7.5G 4.0/9	0.5BG	5.0G	4.5/	3.5/	/11	/7 /6
Blue	2.5PB 3.5/10	4.5PB	10.0B	4.0/	3.0/	/12	/8
Purple	10.0P 4.5/10	2.5RP	7.5P	5.0/	4.0/	/12	/8 /6.5

[1] The maximum chroma is not limited.

[2] For the colors green and purple, the minimum saturation (chroma) limits for porcelain enamel on metal are lower than for most other surface coatings. Therefore, the minimum chroma limits for porcelain enamel on metal for these 2 colors may be as low as that shown in the chroma double minus column.

NOTE.—Color chips for paint, enamel, etc., are available from the Department of Transportation, Office of Hazardous Materials Operations, MTH-21, Washington, D.C. 20590, as a set of the 6 colors and prescribed tolerances for $5.50 per set.

TABLE 2.—*Printing ink color specifications*[1]

Color	Series	Munsell notation[2]
Red:		
Central series	Central color	6.8R 4.47/12.8
	Grayish	7.2R 4.72/12.2
	Purple	6.4R 4.49/12.7
	Purple and vivid.	6.1R 4.33/13.1
	Vivid	6.7R 4.29/13.2
	Orange	7.3R 4.47/12.8
	Orange and grayish.	7.65R 4.70/12.4
Light series	Light	7.0R 4.72/13.2
	Light and orange.	7.4R 4.96/12.6
	Light and purple.	6.6R 4.79/12.9
Dark series	Dark A	6.7R 4.19/12.5
	Dark B	7.0R 4.25/12.35
	Dark and purple.	7.5R 4.23/12.4
Orange:		
Central series	Central color	5.0YR 6.10/12.15
	Yellow and grayish A.	5.8YR 6.22/11.7
	Yellow and grayish B.	6.1YR 6.26/11.85
	Vivid	5.1YR 6.07/12.3
	Red and vivid A.	3.9YR 5.87/12.75
	Red and vivid B.	3.6YR 5.91/12.6
	Grayish	4.9YR 6.10/11.9
Light series	Light and vivid A.	5.8YR 6.78/12.7
	Light and yellow.	6.0YR 6.80/12.8
	Light and vivid B.	4.9YR 6.60/12.9
Dark series	Dark and yellow.	5.8YR 5.98/11.0
	Dark A	5.1YR 5.80/11.1
	Dark B	5.0YR 5.79/11.0
Yellow:		
Central series	Central color	4.3Y 7.87/10.3
	Vivid A	4.5Y 7.82/10.8
	Vivid B	3.3Y 7.72/11.35
	Vivid and orange.	3.2Y 7.72/10.8
	Grayish A	4.1Y 7.95/9.7
	Grayish B	5.1Y 8.06/9.05
	Green-yellow	5.2Y 7.97/9.9
Light series	Light	5.4Y 8.59/10.5
	Light and green-yellow.	5.4Y 8.56/11.2
	Light and vivid.	4.4Y 8.45/11.4
Dark series	Dark and green-yellow.	4.4Y 7.57/9.7
	Dark and orange A.	3.4Y 7.39/10.4
	Dark and orange B.	3.5Y 7.41/10.0

See footnotes at end of table.

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[1] Black and colors on labels and placards must be able to withstand a 72 hour fade-ometer test, and to withstand open weather exposure for at least 30 days without a substantial reduction in effectiveness.

TABLE 2.—*Printing ink color specifications*[1]—Continued

Color	Series	Munsell notation[2]
Green:		
Central series	Central color	9.7G 4.26/7.75
	Grayish	10G 4.46/7.5
	Blue A	1.4BG 4.20/7.4
	Blue B	1.0BG 4.09/7.75
	Vivid	8.4G 4.09/8.05
	Vivid green-yellow.	7.0G 4.23/8.0
	Green-yellow	7.85G 4.46/7.7
Light series	Light and vivid.	9.5G 4.45/8.8
	Light and blue	0.2G 4.31/8.8
	Light and green-yellow.	8.3G 4.29/9.05
Dark series	Dark and green-yellow.	7.1G 4.08/7.1
	Dark and grayish.	9.5G 4.11/6.9
	Dark	8.5G 3.97/7.2
Blue:		
Central series	Central color	3.5PB 3.94/9.7
	Green and grayish A.	2.0PB 4.35/8.7
	Green and grayish B.	1.7PB 4.22/9.0
	Vivid	2.9PB 3.81/9.7
	Purple and vivid A.	4.7PB 3.53/10.0
	Purple and vivid B.	4.0PB 3.71/9.9
	Grayish	3.75PB 4.03/9.1
Light series	Light and green A.	1.7PB 4.32/9.2
	Light and green B.	1.5PB 4.11/9.6
	Light and vivid.	3.2PB 3.95/10.05
Dark series	Dark and grayish.	3.9PB 4.01/8.7
	Dark and purple A.	4.8PB 3.67/9.3
	Dark and purple B.	5.2PB 3.80/9.05
Purple:		
Central series	Central color	9.5P 4.71/11.3
	Red	1.0RP 5.31/10.8
	Red and vivid A.	1.4RP 5.00/11.9
	Red and vivid B.	0.2RP 4.39/12.5
	Vivid	8.0P 4.04/12.0
	Blue	7.0P 4.39/10.8
	Grayish	8.8P 5.00/10.3
Light series	Light and red A.	0.85RP 5.56/11.1
	Light and red B.	1.1RP 5.27/12.3
	Light and vivid.	9.2P 4.94/11.95
Dark series	Dark and grayish.	9.6P 4.70/10.9
	Dark and vivid.	8.4P 4.05/11.6
	Dark and blue	7.5P 4.32/10.5

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[1] Black and colors of printing inks on labels and placards must be able to withstand a 72-hr fadeometer test, and to withstand open weather exposure for at least 30 days without a substantial reduction in effectiveness.

[2] Printing ink central colors and tolerances approximate those of the color standards for paint, enamel, etc., while allowing for expected differences from production methods and materials.

NOTE.—Printing ink color chips are available from the Department of Transportation, Office of Hazardous Materials Operations, MTH-21, Washington, D.C. 20590, as a set of 6 colors and prescribed tolerances for $12.50 per set.

APPENDIX B—DIMENSIONAL SPECIFICATION FOR PLACARDS

1. *Placard specifications.* (a) The print type on each placard must be Franklin Gothic Condensed.

(b) Each square-on-point placard must measure 10¾ inches (273.0 mm.) on each side, the outer, ½-inch (12.7 mm.) of which must be white.

NOTE: The measurements in these specifications may be rounded to the nearest 1/32 of an inch and to the nearest whole millimeter.

(c) Specifications for each placard to augment those in paragraphs (1)(a) and (b) of this Appendix and those contained in subpart F, Part 172 of this subchapter are as follows:

(1) *DANGEROUS placard.* The word "DANGEROUS" must be across the center of the placard and made with letters 2 7/32 inches (56.4 mm.) high with a ⅜-inch (9.5 mm.) stroke. The white section of the placard must be centered across the placard and 5 inches (127 mm.) wide. The two ends of the white area must have an ⅛-inch (3.2 mm.) red solid line border to indicate the outer ½-inch (12.7 mm.) white placard border. The placard color must be red, white, and black.

(2) *EXPLOSIVES A placard.* The word "EXPLOSIVES" must be across the center area of the placard and made with letters 1⅞ inches (47.6 mm.) high with a 5/16-inch (7.9 mm.) stroke. The top of the letters in the words "EXPLOSIVES" must be 1½ inches (38.1 mm.) above the placard horizontal center line. The top of the letter "A" must be ½-inch (12.7 mm.) below the horizontal center line. The letter "A" must be approximately 2 inches (50.8 mm.) high. The base of the symbol must be 2 1/16 inches (52.4 mm.) above the placard horizontal center line, and must be 4½ inch (114.3 mm.) high when measured from a horizontal line touching the lowest extremity. The width of the symbol must be 7⅞ inches (200.0 mm.) when measured between two lines perpendicular to the base line and touching the widest extremities on each side. The radius of the bomb must be ¾-inch (19.1 mm.). The placard color must be orange, black, and white.

(3) Except for the letter "B", the EXPLOSIVES B placard specifications are the same as those for the EXPLOSIVES A placard. The location, height, and stroke for the letter "B" are the same as those prescribed for the letter "A".

(4) The word "NON-FLAMMABLE" must be across the center area with the word "GAS" centered beneath the word "NON-FLAMMABLE." The letters in both words must be 1 9/16 inches (39.6 mm.) high and made with a 9/32-inch (7.1 mm.) stroke. The top of the letters in the words "NON-FLAMMABLE" must be 1⅜ inches (35.9 mm.) above the placard horizontal center line, and the top of the letters in the word "GAS" must be 9/16-inch (14.3 mm.) below the placard horizontal center line. The base of the symbol must be 3⅛ inches (79.3 mm.) above the horizontal centerline with the top 4 15/16 inches (125.4 mm.) above the placard horizontal center line. The lower portion of the cylinder (symbol) must be 17/32-inch (13.5 mm.) wide with the neck ¼-inch (6.3 mm.) wide. The symbol must be 3 9/16 inches (90.4 mm.) long. The placard color must be green and white.

(5) The word "OXYGEN" must be centered on the placard horizontal center line in letters 2½ inches (63.5 mm.) high and made with a 7/16-inch (11.1 mm.) stroke. The base of the bar in the symbol must be 2 1/16 inches (52.4 mm.) above the placard horizontal center line. The overall height of the symbol must be 4 5/16 (109.5 mm.) with the bar measuring ⅛-inch (3.2 mm.) wide and, 3 3/16 inches (55.5 mm.) long.

The symbol must be 2⅜ inches (60.3 mm.) across the widest part.

The outer ½-inch (12.7 mm.) of the 10¾ inches (273.0 mm.) square on-point placard must be white. The placard color must be yellow, black, and white.

(6) *FLAMMABLE GAS placard.* The word "FLAMMABLE" must be across the placard center area with the word "GAS" centered beneath the word "FLAMMABLE". The letters in both words must be 2 inches (50.8 mm.) high and made with a ⅜-inch (9.5 mm.) stroke. The top of the letters in the word "FLAMMABLE" must be 1⅝ inches (41.3 mm.) above the placard horizontal center line and the top of the word "GAS" must be ⅝-inch (15.9 mm.) below the placard horizontal center line. The base of the symbol bar must be 2¼ inches (57.1 mm.) above the placard horizontal center line, and must be 4 17/32 inches (115.1 mm.) high and 3 5/16 inches (84.1 mm.) wide. The bar must be 5/32-inch (4.0 mm.) wide and 3 5/16 inches (84.1 mm.) long. The outer ½ (12.7 mm.) of the 10¾ inches (273.0 mm.) square-on-point placard must be white. The placard color must be red and white.

(7) *CHLORINE placard.* The specifications for the CHLORINE placard are the same as those for the POISON GAS placard except for the word "CHLORINE" and the symbol. The word "CHLORINE" must be centered on the placard horizontal center line in letters 2½ inches (63.5 mm.) high and made with a 7/16-inch (11.1 mm.) stroke. The lowest part of the symbol must be 1¾ inches (44.5 mm.) above the placard horizontal center line. The symbol must be 3 11/16 inches (93.6 mm.) high and 5⅛ inches (130.2 mm.) across the widest extremities.

(8) *POISON GAS placard.* The word "POISON" must be across the center area of the placard with the word "GAS" centered beneath the word "POISON." The letters in both words must be 2 3/16 inches (55.5 mm.) high and made with a 13/32-inch (10.3 mm.) stroke. The top of the letters in the word "POISON" must be 2¼ inches (57.1 mm.) above the horizontal center line. The lowest part of the symbol must be 2¾ inches (69.8 mm.) above the horizontal center line and must be 3¼ inches (82.5 mm.) high and 4 5/16 inches (109.5 mm.) across the widest extremeties. The ⅛-inch (3.2 mm.) black border must be ½-inch (12.7 mm.) in from the placard edge. The placard color must be black and white.

(9) *FLAMMABLE placard.* The word "FLAMMABLE" must be centered on the placard horizontal center line. The letters in the word "FLAMMABLE" must be 2 inches (50.8 mm.) high and made with an 11/32-inch (8.7 mm.) stroke. The base of the symbol bar must be 2¼ inches (57.1 mm.) above the placard horizontal center line. The symbol must be 4 9/16 inches (115.9 mm.) wide and 3 5/16 inches (84.1 mm.) wide. The bar must be ⅛-inch (3.2 mm.) wide and 3 5/16 inches (84.1 mm.) long. The outer ½-inch (12.7 mm.) of the 10¾ inches (273.0 mm.) square-on-point placard must be white.

(10) *EMPTY placard.* The specifications for the FLAMMABLE-EMPTY placard is representative of the requirements for the following EMPTY placards: NON-FLAMMABLE GAS; POISON GAS; CHLORINE; OXYGEN; FLAMMABLE GAS; FLAMMABLE; COMBUSTIBLE; OXIDIZER; ORGANIC PEROXIDE; POISON; and CORROSIVE. The specification for each EMPTY placard must be the same as those prescribed for each placard except for the top triangle in the placard.

The base of the black triangle must be ¼-inch (6.3 mm.) above the top of the letters in the placard name. The base of the letters in the word EMPTY must be 3¼ inches (82.5 mm.) above the placard horizontal center line.

The letters in the word "EMPTY" must be 1-inch (25.4 mm.) high and made with a 7/32-inch (5.5 mm.) stroke.

The EMPTY placards may be made in any of the three ways cited in § 172.525(c), subpart F of Part 172.

(11) *COMBUSTIBLE placard.* The specification for the COMBUSTIBLE placard are the same as those prescribed for the FLAMMABLE placard except the letters in the word "COMBUSTIBLE" must be 1⅞ inches (47.6 mm.) high and made with an 11/32-inch (8.7 mm.) stroke.

(12) *FLAMMABLE SOLID placard.* The word "FLAMMABLE" must be across the center of the placard with the word "SOLID" centered beneath the word "FLAMMABLE." The letters in the word "FLAMMABLE" must be 2 inches (50.8) mm.) high and made with a ⅜-inch (9.5 mm.) stroke. The letters in the word "SOLID" must be 1½ inches (38.1 mm.) high and made with a ¼-inch

(6.3 mm.) stroke. The top of the letters in the word "FLAMMABLE" must be 1$\frac{3}{16}$ inches (30.1 mm.) above the placard horizontal center line, and the top of the word "SOLID" must be 1-inch (25.5 mm.) below the placard horizontal center line. The base of the symbol bar must be 2¼ inches (57.1 mm.) above the placard horizontal center line. The symbol must be 4$\frac{9}{16}$ inches (115.9 mm.) high and 3$\frac{5}{16}$ inches (84.1 mm.) wide. The outer ½-inch (12.7 mm.) of the 10¾ inches (273.0 mm.) square-on-point placard must be white. Each red and white stripe must be approximately 1 inch (25.4 mm.) wide. The placard must have seven red stripes and six white stripes. One red stripe must be approximately centered on the vertical center line of the placard. The placard color must be black, white, and red.

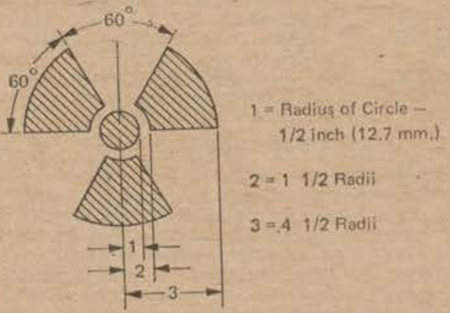
(13) *FLAMMABLE SOLID W placard*. The specifications for the FLAMMABLE SOLID W are the same as the specifications for the FLAMMABLE SOLID placard except for the top triangle. The base of the blue triangle must be 2 inches (50.8 mm.) above the placard horizontal center line with the base of the symbol 2⅜ inches (60.3 mm.) above the placard horizontal center line. The symbol must be 2¼ inches (57.1 mm.) high; 2¾ inches (69.8 mm.) across the top 1¾ inches (44.4 mm.) across the base, and made with a $\frac{5}{16}$-inch (7.9 mm.) stroke. The white stripe in the symbol must be $\frac{7}{32}$-inch (5.5 mm.) wide and 3½ inches (88.9 mm.) long. The white stripe must slant upward from right to left at an angle of approximately 21 degrees from the horizontal. This placard may be made in any of the three ways cited in § 172.548, subpart F of Part 172.

(14) *OXIDIZER placard*. The word "OXIDIZER" must be centered on the placard horizontal center line in letters 2½ inches (63.5 mm.) high with a $\frac{15}{32}$-inch (11.9 mm.) stroke. The base of the bar of the symbol must be 2$\frac{1}{16}$ inches (52.4 mm.) above the placard horizontal center line. The overall height of the symbol must be 4$\frac{5}{16}$ inches (109.5 mm.) with the bar measuring ⅛-inch (3.2 mm.) wide and 2$\frac{3}{16}$ inches (55.6 mm.) long. The symbol must be 2⅜ inches (60.3 mm.) across the widest part. The outer ½-inch (12.7 mm.) of the 10¾ inches (273.0 mm.) placard must be white. The placard color must be yellow, black, and white.

(15) *ORGANIC PEROXIDE placard*. The word "ORGANIC" must be across the center line of the placard with the word "PEROXIDE" centered beneath the word "ORGANIC." The letters in both words must be 2 inches (50.8 mm.) high and made with an $\frac{11}{32}$-inch (8.7 mm.) stroke. The top of the letters in the word "ORGANIC" must be 2⅛ inches (54.0 mm.) above the placard horizontal center line, and the top of the letters in the words "PEROXIDE" must be $\frac{5}{16}$-inch (7.9 mm.) below the placard horizontal center line. The base of the symbol bar must be 2⅞ inches (73.0 mm.) above the horizontal center line. The symbol must be 3$\frac{11}{16}$ inch (93.6 mm.) high and 2$\frac{1}{16}$ inches (52.3 mm.) wide with the bar $\frac{3}{16}$-inch (4.8 mm.) wide and 1⅞ inches (47.6 mm.) long. The outer ½-inch (12.7 mm.) of the 10¾ inches (273.0 mm.) square-on-point placard must be white. The placard color must be yellow, black, and white.

(16) *POISON placard*. The word "POISON" must be centered on the placard horizontal center line in letters 3$\frac{1}{16}$ inches (77.8 mm.) high and made with a $\frac{9}{16}$-inch (14.3 mm.) stroke. The lowest point on the symbol must be 2⅛ inches (54.0 mm.) above the placard horizontal center line. The symbol must be 3$\frac{11}{16}$ inches (93.6 mm.) high and 4$\frac{15}{16}$ inches (125.4 mm.) across the widest extremities. The ⅛-inch (3.2 mm.) black border must be ½-inch (12.7 mm.) in from the placard edge. The placard color must be black and white.

(17) *RADIOACTIVE placard*. The word "RADIOACTIVE" must be centered on the placard horizontal center line in letters 2 inches (50.8 mm.) with an $\frac{11}{32}$-inch (8.7 mm.) stroke. The lower edge of the yellow triangle must be 1⅛ inches (28.6 mm.) above the placard horizontal center line. The lower edge of the symbol must be 1¼ inches (31.7 mm.) above the placard horizontal center line. The symbol must be made as shown with the following dimensions:



1 = Radius of Circle – 1/2 inch (12.7 mm.)

2 = 1 1/2 Radii

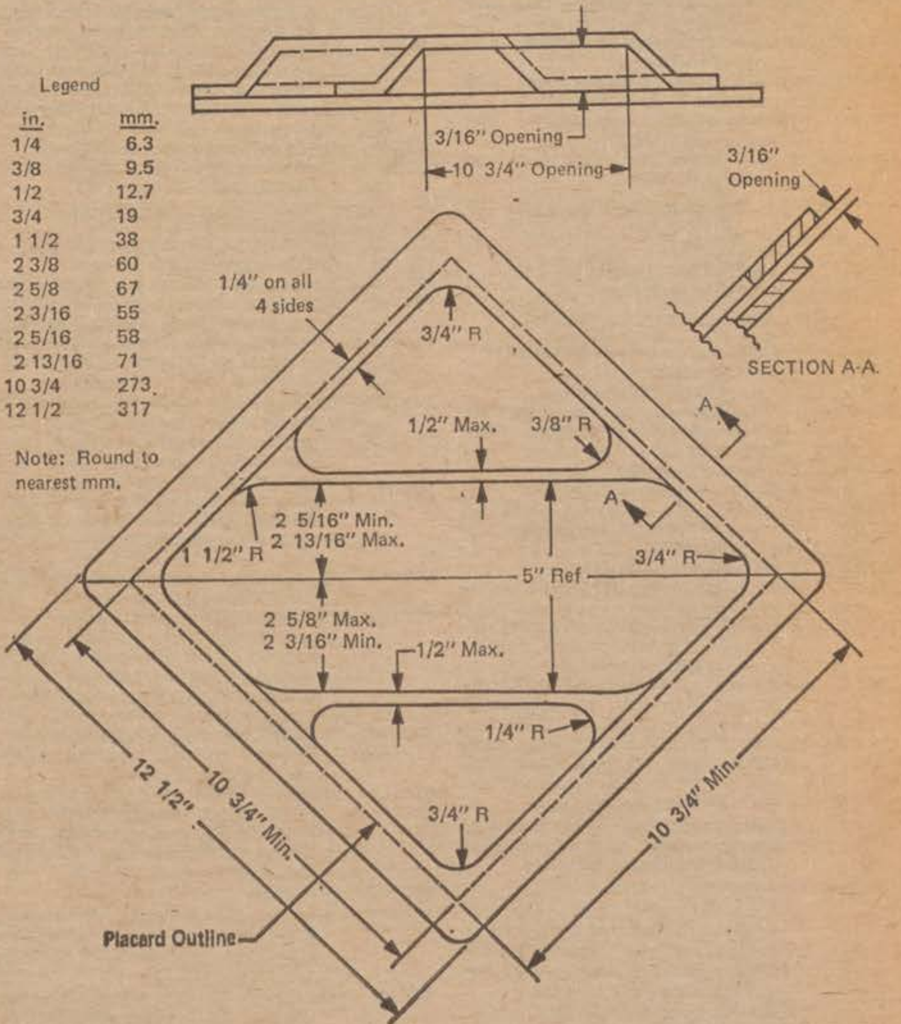
3 = 4 1/2 Radii

The lower white area must have a ⅛-inch (3.2 mm.) black solid line border extended from the edge of the yellow area to indicate the outer ½-inch (12.7 mm.) white placard border. The placard color must be yellow, black, and white.

(18) *CORROSIVE placard*. The word "CORROSIVE" must be across the center of the placard and made with letters 2-$\frac{1}{16}$ inches (52.4 mm.) high with a $\frac{11}{32}$-inch (8.7 mm.) stroke. The base of the top white triangle must be 1½ inches (38.1 mm.) above the placard horizontal center line. The lowest part of the symbol must be 1⅝ inches (41.3 mm.) above the placard horizontal center line. The height of the symbol measured from a horizontal line extended from the lowest part of the symbol must be 3¼ inches (82.5 mm.) and the width across the widest part must be 7⅜ inches (187.3 mm.). The upper white area must have a ⅛-inch (3.2 mm.) black solid line border as an extension from the edge of the black area to indicate the outer ½-inch (12.7 mm.) white placard border. The placard color must be black and white.

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-29A, 41 FR 40680, Sept. 20, 1976]

APPENDIX C—DIMENSIONAL SPECIFICATIONS FOR RECOMMENDED PLACARD HOLDER



Legend

in.	mm.
1/4	6.3
3/8	9.5
1/2	12.7
3/4	19
1 1/2	38
2 3/8	60
2 5/8	67
2 3/16	55
2 5/16	58
2 13/16	71
10 3/4	273.
12 1/2	317

Note: Round to nearest mm.

PART 173—SHIPPERS—GENERAL REQUIREMENTS FOR SHIPMENTS AND PACKAGINGS

Subpart A—General

Sec.
173.1 Purpose and scope.
173.2 Classification of a material having more than one hazard as defined in this Part.
173.3 Packaging and exceptions.
173.4 [Reserved]
173.5 [Reserved]
173.6 Shipments by air.
173.7 U.S. Government material.
173.8 Canadian shipments and packagings.
173.9—173.11 [Reserved]

Subpart B—Preparation of Hazardous Materials for Transportation

173.21 Prohibited packing.
173.22 Shipper's responsibility.
173.22a Use of packagings authorized under exemptions.
173.23 Previously authorized packaging.
173.24 Standard requirements for all packages.
173.25 Authorized packages in outside containers.
173.26 Quantity limitations.
173.27 Aircraft quantity limitations.
173.28 Reuse of containers.
173.29 Empty packagings, portable tanks, cargo tanks, and tank cars.
173.30 Loading and unloading of transport vehicles.
173.31 Qualification, maintenance, and use of tank cars.
173.32 Qualification, maintenance, and use of portable tanks.
173.33 Qualification, maintenance, and use of cargo tanks.
173.34 Qualification, maintenance, and use of cylinders.

Subpart C—Explosives; Definitions and Preparation

173.50 An explosive.
173.51 Forbidden explosives.
173.52 Acceptable explosives.

CLASS A EXPLOSIVES; DEFINITIONS

173.53 Definition of class A explosives.
173.54 Ammunition for cannon.
173.55 Ammunition, nonexplosive.
173.56 Ammunition, projectiles, grenades, bombs, mines, gas mines, and torpedoes.
173.57 Rocket ammunition.
173.58 Ammunition for small arms.
173.59 Chemical ammunition, explosive.
173.60 Black powder and low explosives.
173.61 High explosives.
173.62 High explosives, liquid.
173.63 High explosives with liquid explosive ingredient.
173.64 High explosives with no liquid explosive ingredient and propellant explosives, Class A.
173.65 High explosives with no liquid explosive ingredient nor any chlorate.
173.66 Blasting caps, blasting caps with safety fuse, blasting caps with metal clad mild detonating fuse, and electric blasting caps.
173.67 Blasting caps with safety fuse and blasting caps with metal clad mild detonating fuse.
173.68 Detonating primers.
173.69 Detonating fuzes, Class A, with or without radioactive components, detonating fuze parts containing an explosive, boosters, bursters, or supplementary charges.
173.70 Diazodinitrophenol or lead mononitroresorcinate.
173.71 Fulminate of mercury.
Sec.
173.72 Guanyl nitrosamino guanylidene hydrazine.
173.73 Lead azide.
173.74 Lead styphnate.
173.75 Nitro mannite.
173.76 Nitrosoguanidine.
173.77 Pentaerythrite tetranitrate.
173.78 Tetrazene.
173.79 Jet thrust units (jato), Class A explosives; rocket motors, Class A explosives; igniters, jet thrust (jato), Class A explosives; and igniters, rocket motor, Class A explosives.
173.80 Charged oil well jet perforating guns.
173.86 New explosives, definitions; approval and notification.
173.87 Explosives in mixed packing.

CLASS B EXPLOSIVES; DEFINITIONS

173.88 Definition of class B explosives.
173.89 Ammunition for cannon with empty projectiles, inert-loaded projectiles, solid projectiles, or without projectiles or shell.
173.90 Rocket ammunition with empty, inert-loaded, or solid projectiles.
173.91 Special fireworks.
173.92 Pet thrust units (jato), CLASS B explosives; rocket motors, CLASS B explosives; igniters, jet thrust (jato), CLASS B explosives; igniters, rocket motors, CLASS B explosives; and starter cartridges, jet engine, CLASS B explosives.
173.93 Propellant explosives (solid) for cannon, small arms, rockets, guided missiles, or other devices, and propellant explosives (liquid).
173.94 Explosive power devices, Class B.
173.95 Rocket engines (liquid), Class B explosives.

CLASS C EXPLOSIVES; DEFINITIONS

173.100 Definition of Class C explosives.
173.101 Small-arms ammunition.
173.101a Cartridges, practice ammunition.
173.102 Explosive cable cutters; explosive power devices, class C explosive release devices, or starter cartridges, jet engine, class C explosives.
173.103 Blasting caps, blasting caps with safety fuse, blasting caps with metal clad mild detonating fuse, and electric blasting caps, not exceeding 1,000 caps.
173.104 Cordeau detonant fuse, mild detonating fuse, metal clad or flexible linear shaped charges, metal clad.
173.105 Percussion, tracer, combination, time fuzes and tracers.
173.106 Cartridge bags, empty, with black powder igniters, igniters, safety squibs, electric squibs, delay electric igniters, igniter fuse-metal clad, and fuse lighters or fuse igniters.
173.107 Primers, percussion caps, grenades, empty, primed, and cartridge cases, empty, primed.
173.108 Common fireworks, signal flares, hand signal devices, smoke signals, smoke candles, smoke grenades, smoke pots, and Very signal cartridges.
173.109 Toy caps.
173.110 Charged oil well jet perforating guns, total explosive content in guns not exceeding 20 pounds per motor vehicle.
173.111 Cigarette loads, explosive auto alarms, toy propellant devices, toy smoke devices, trick matches, and trick noise makers, explosive.
Sec.
173.112 Oil well cartridges.
173.113 Detonating fuzes, class C explosives.
173.114 Actuating cartridges, explosive, fire extinguisher or valve.

Subpart D—Flammable, Combustible, and Pyrophoric Liquids; Definitions and Preparation

173.115 Flammable, combustible, and pyrophoric liquids; definitions.
173.116 Outage.
173.117 Closing and cushioning.
173.118 Limited quantities of flammable liquids.
173.118a Exceptions for combustible liquids.
173.119 Flammable liquids not specifically provided for.
173.120 Automobiles, motorcycles, tractors, or other self-propelled vehicles.
173.121 Carbon bisulfide (disulfide).
173.122 Acrolein, inhibited.
173.123 Ethyl chloride.
173.124 Ethylene oxide.
173.125 Alcohol, n.o.s. (flammable liquid).
173.126 Nickel carbonyl.
173.127 Nitrocellulose or collodion cotton, fibrous, or nitrostarch, wet; nitrocellulose flakes; colloided nitrocellulose, granular, flake, or block; and lacquer base or lacquer chips, wet.
173.128 Paints and related materials (flammable liquids).
173.129 Polishes, (flammable liquids).
173.130 Refrigerating machines.
173.131 Road asphalt, or tar, liquid.
173.132 Cement liquid, n.o.s.; container cement; linoleum cement; pyroxylin cement; rubber cement; tile cement; wallboard cement; coating solution (flammable liquids).
173.133 Spirits of nitroglycerin.
173.134 Pyrophoric liquids, n.o.s.
173.135 Diethyl dichlorosilane, dimethyl dichlorosilane, ethyl dichlorosilane, ethyl trichlorosilane, methyl trichlorosilane, trimethyl chlorosilane, and vinyl trichlorosilane.
173.136 Methyl dichlorosilane and trichlorosilane.
173.137 Lithium aluminum hydride, ethereal.
173.138 Pentaborane.
173.139 Ethylene imine, inhibited, and propylene imine, inhibited.
173.140 Zirconium, metallic, solutions, or mixtures thereof, liquid.
173.141 Amyl mercaptan, butyl mercaptan, ethyl mercaptan, isopropyl mercaptan, propyl mercaptan, and aliphatic mercaptan mixtures.
173.143 Methylchloromethyl ether, anhydrous.
173.144 Ink (flammable liquid).
173.145 Dimethylhydrazine, unsymmetrical, and methylhydrazine.
173.146 Heaters for refrigerator cars, flammable liquid fuel type.
173.147 Methyl vinyl ketone, inhibited.
Sec.
173.148 Monoethylamine.
173.149 Methyl magnesium bromide in ethyl ether in concentrations not over 40 percent.
173.149a Nitromethane.

Subpart E—Flammable Solids, Oxidizers, and Organic Peroxides; Definitions and Preparation

173.150 Flammable solid; definition.
173.151 Oxidizer; definition.
173.151a Organic peroxide; definition.
173.152 Packing.
173.153 Limited quantities of flammable solids, oxidizers and organic peroxides.
173.154 Flammable solids and oxidizers not specifically provided for.

Sec.
173.154a Fusees.
173.155 Bags, nitrate of soda, empty and unwashed.
173.156 Barium peroxide and calcium peroxide.
173.157 Benzoyl peroxide, chlorobenzoyl peroxide (para), cyclohexanone peroxide, dimethylhexane dihydroperoxide, lauroyl peroxide, or succinic acid peroxide, wet.
173.158 Benzoyl peroxide, dry; chlorobenzoyl peroxide (para) dry; cyclohexanone peroxide, dry; lauroyl peroxide, dry; or succinic acid peroxide, dry.
173.159 Burnt cotton.
173.160 Calcium chlorite and sodium chlorite.
173.161 Calcium phosphide.
173.162 Charcoal.
173.163 Chlorate of soda, chlorate of potash, and other chlorates.
173.164 Chromic acid or chromic acid mixture, dry.
173.165 Coal, ground bituminous; sea coal; coal facings.
173.166 Cobalt resinate, precipitated; calcium resinate, and calcium resinate fused.
173.167 Cotton waste, oily.
173.168 Lithium amide, powdered.
173.169 Fiber, burnt.
173.170 Fibers or fabrics impregnated, saturated or coated.
173.171 Fish scrap or fish meal.
173.172 Hair, wet.
173.173 Aluminum dross or magnesium dross.
173.174 Iron sponge, spent oxide, spent iron mass, spent iron sponge.
173.175 Lacquer base, or lacquer chips, dry.
173.176 Matches.
173.177 Motion-picture film and X-ray film.
173.178 Calcium carbide.
173.179-173.181 [Reserved]
173.182 Nitrates.
173.183 Potassium nitrate mixed (fused) with sodium nitrite.
173.184 Nitrocellulose or collodion cotton, wet; or nitrocellulose, colloided, granular, or flake, wet; nitrostarch, wet, or nitroguanidine, wet.
173.185 Paper stock, wet.
173.186 Paper waste, wet.
173.187 Peroxide of sodium.
173.188 Phosphoric anhydride.
173.189 Phosphorus, amorphous, red.
173.190 Phosphorus, white or yellow.
173.191 Phosphorus pentachloride.
173.192 Picrate of ammonia (ammonium picrate), picric acid, trinitrobenzoic acid, and urea nitrate wet.
173.193 Picric acid, trinitrobenzoic acid, or urea nitrate, wet.
173.194 Potassium permanganate.
173.195 Pyroxylin plastic scrap.
173.196 [Reserved]
173.197 Pyroxylin plastics, in sheets, rolls, rods, or tubes.
173.197a Smokeless power for small arms.
173.198 Sodium hydride.
173.199 Rags, oily.
173.200 Rags, wet.
173.201 Rubber scrap, rubber buffings, reclaimed rubber, and regenerated rubber.
173.202 Sodium and potassium, metallic liquid alloy.
173.203 Tetranitromethane.
173.204 Sodium hydrosulfite.
173.205 Sodium picramate, wet.
173.206 Sodium or potassium, metallic; sodium amide; sodium potassium alloys; sodium aluminum hydride; lithium metal; lithium silicon; lithium ferro silicon; lithium hydride; lithium borohydridge; lithium aluminum hydride; lithium acetylide-ethylene diamine complex; aluminum hydride; cesium metal; rubidium metal; zirconium hydride, powdered.
173.207 Sulfide of sodium or sulfide of potassium, fused or concentrated, when ground.
173.208 Titanium metal powder, wet or dry.
173.209 Tankage, garbage, and tankage fertilizers.
173.210 Tankages, rough ammoniate.
173.211 Textile waste, wet.
173.212 Trinitrobenzene and trinitrotoluene, wet.
173.213 Wool waste, wet.
173.214 Hafnium metal or zirconium metal, wet, minimum 25 percent water by weight, mechanically produced, finer than 270 mesh particle size; hafnium metal or zirconium metal, dry, in an atmosphere of inert gas, mechanically produced, finer than 270 mesh particle size; hafnium metal or zirconium metal, wet, minimum 25 percent water by weight, chemically produced (See Note 1), finer than 20 mesh particle size; hafnium metal or zirconium metal, dry, in an atmosphere of inert gas, chemically produced (See Note 1), finer than 20 mesh particle size.
173.216 Zirconium picramate, wet.
173.217 Calcium hypochlorite compound, dry; lithium hypochlorite compound, dry; mono-(trichloro) tetra-(monopotassium dichloro)-penta-s-triazinetrione, dry; potassium dichloro-s-triazinetrione, dry; sodium dichloro-s-triazinetrione, dry; trichloro-s-triazinetrione, dry.
173.218 Isopropyl percarbonate, unstabilized.
173.219 Potassium perchlorate.
173.220 Magnesium or zirconium scrap consisting of borings, clippings, shavings, sheets, turnings, or scalpings, and magnesium metallic (other than scrap), powdered, pellets, turnings, or ribbon.
173.221 Liquid organic peroxides, n.o.s., and liquid organic peroxide solutions, n.o.s.
173.222 Acetyl peroxide and acetyl benzoyl peroxide, solution.
173.223 Peracetic acid.
173.224 Cumene hydroperoxide, dicumyl peroxide, diisopropylbenzene hydroperoxide, paramenthane hydroperoxide, and tertiary butylisopropyl benzene hydroperoxide.
173.225 Phosphorus trisulfide, phosphorus sesquisulfide, phosphorus heptasulfide, and phosphorus pentasulfide.

Sec.
173.226 Thorium metal, powdered.
172.227 Urea peroxide.
173.228 Zinc ammonium nitrite.
173.229 Chlorate and borate mixtures or chlorate and magnesium chloride mixtures.
173.230 Sodium, metallic, dispersion in organic solvent.
173.231 Calcium, metallic, crystalline.
173.232 Aluminum, metallic powder.
173.233 Nickel catalyst, finely divided, activated or spent.
173.234 Sodium nitrite and sodium nitrite mixtures.

Sec.
173.235 Ammonium bichromate (ammonium dichromate).
173.236 Decaborane.
173.237 Chlorine dioxide hydrate, frozen; chloric acid.
173.238 Aircraft rocket engines (commercial) and/or aircraft rocket engine igniters (commercial).
173.239 Barium azide—50 percent or more water wet.
173.239a Ammonium perchlorate.

Subpart F—Corrosive Materials; Definition and Preparation

173.240 Corrosive material; definition.
173.241 Outage.
173.242 Bottles containing corrosive liquids.
173.243 Closing and cushioning.
173.244 Limited quantities of corrosive materials.
173.245 Corrosive liquids not specifically provided for.
173.245a Corrosive liquids n.o.s. shipped in bulk.
173.245b Corrosive solids not specifically provided for.
173.246 Antimony pentafluoride, bromine pentafluoride, iodine pentafluoride, bromine trifluoride, and chlorine trifluoride.
173.247 Acetyl bromide, acetyl chloride, acetyl iodide, antimony pentachloride, benzoyl chloride, boron trifluoride-acetic acid complex, chromyl chloride, dichloroacetyl chloride, diphenylmethyl bromide solution, pyro sulfuryl chloride, silicon chloride, sulfur chloride (mono and di), sulfuryl chloride, thionyl chloride, tin tetrachloride (anhydrous), titanium tetrachloride, and trimethyl acetyl chloride.
173.247a Vanadiam tetrachloride and vanadium oxytrichloride.
173.248 Acid sludge, sludge acid, spent sulfuric acid, or spent mixed acid.
173.249 Alkaline corrosive liquids, n.o.s.; Alkaline liquids, n.o.s.; Alkaline corrosive battery fluid; Potassium fluoride solution; Potassium hydrogen fluoride solution; Sodium aluminate, liquid; Sodium hydroxide solution; Potassum hydroxide solution; Boiler compound, liquid, solution.
173.249a Cleaning compound, liquid; coal tar dye, liquid; dye intermediate, liquid; mining reagent, liquid; and textile treating compound mixture, liquid.
173.250 Automobiles, other self-propelled vehicles, engines or other mechanical apparatus.
173.250a Benzene phosphorus dichloride and benzene phosphorus thiodichloride.
173.251 Boron trichloride and boron tribromide.
173.252 Bromine.
173.253 Chloracetyl chloride.
173.254 Chlorosulfonic acid and mixtures of chlorosulfonic acid-sulfur trioxide.
173.255 Dimethyl sulfate.
173.256 Compounds, cleaning, liquid.
173.257 Electrolyte (acid) and alkaline corrosive battery fluid.
173.258 Electrolyte, acid, or alkaline corrosive battery fluid, packed with storage batteries.
173.259 Electrolyte, acid, or alkaline corrosive battery fluid, packed with battery charger, radio current supply device, or electronic equipment and actuating devices.
173.260 Electric storage batteries, wet.

Sec.
173.261 Fire-extinguisher charges.
173.262 Hydrobromic acid.
173.263 Hydrochloric (muriatic) acid, hydrochloric (muriatic) acid mixtures, hydrochloric (muriatic) acid solution, inhibited, sodium chlorite solution (not exceeding 42 percent sodium chlorite), and cleaning compounds, liquids, containing hydrochloric (muriatic) acid.
173.264 Hydrofluoric acid; White acid.
173.265 Hydrofluosilicic acid.
173.266 Hydrogen peroxide solution in water.
173.267 Mixed acid (nitric and sulfuric acid) (nitrating acid).
173.268 Nitric acid.
173.269 Perchloric acid.
173.270 Phosphorus tribromide.
173.271 Phosphorus oxybromide, phosphorus oxychloride, phosphorus trichloride, and thiophosphoryl chloride.
173.272 Sulfuric acid.
173.273 Sulfur trioxide, stabilized.
173.274 Fluosulfonic acid.
173.275 Difluorophosphoric acid, anhydrous; monofluorophosphoric acid, anhydrous; hexafluorophosphoric acid; and mixtures thereof.
173.276 Anhydrous hydrazine and hydrazine solution.
173.277 Hypochlorite solutions.
173.278 Nitrohydrochloric acid.
173.279 Anisoyl chloride.
173.280 Trichlorosilanes.
173.281 Benzyl bromide (bromotoluene, alpha).
173.282 Isopropyl percarbonate, stabilized.
173.283 Fluoboric acid.
173.284 [Reserved]
173.285 [Reserved]
173.286 Chemical kits.
173.287 Chromic acid solution.
173.288 Chloroformates.
173.289 Formic acid and formic acid solutions.
173.290 Mixtures of hydrofluoric and sulfuric acid.
173.291 Flame retardant compound, liquid.
173.292 Hexamethylene diamine solution.
173.293 Iodine monochloride.
173.294 Monochloroacetic acid, liquid.
173.295 Benzyl chloride.
173.296 Di iso octyl acid phosphate.
173.297 Titanium sulfate solution containing not more than 45% sulfuric acid.
173.298 Memtetrahydro phthalic anhydride.
173.299 Etching acid liquid, n.o.s.
173.299a Tris-(1-aziridinyl) phosphine oxide.

Subpart G—Compressed Gases; Definition and Preparation

173.300 Definitions.
173.300a Approval of independent inspection agency.
173.300b Approval of non-domestic chemical analyses and tests.
173.300c Termination of approval.
173.301 General requirements for shipment of compressed gases in cylinders.
173.302 Charging of cylinders with nonliquefied compressed gases.
173.303 Charging of cylinders with compressed gas in solution (acetylene).
173.304 Charging of cylinders with liquefied compressed gas.
173.305 Charging of cylinders with a mixture of compressed gas and other material.
173.306 Limited quantities of compressed gases.

Sec.
173.307 Exceptions for compressed gases.
173.308 Cigarette lighter or other similar device charged with fuel.
173.314 Requirements for compressed gases in tank cars.
173.315 Compressed gases in cargo tanks and portable tank containers.
173.316 Liquefied hydrogen.

Subpart H—Poisonous Materials, Etiologic Agents, and Radioactive Materials; Definitions and Preparation

173.325 Classes of poisonous materials.
173.326 Poison A.
173.327 General packaging requirements for Poison A materials.
173.328 Poison A materials not specifically provided for.
173.329 Bromacetone; chlorpicrin and methyl chloride mixtures; chlorpicrin and nonflammable, nonliquefied compressed gas mixtures.
173.330 Chemical ammunition.
173.331 Gas identification sets.
173.332 Hydrocyanic acid, liquid (prussic acid) and hyrdocyanic acid liquefied.
173.333 Phosgene or diphosgene.
173.334 Organic phosphates mixed with compressed gas.
173.335 [Reserved]
173.336 Nitrogen dioxide, liquid; nitrogen peroxide, liquid; and nitrogen tetroxide, liquid.
173.337 Nitric oxide.
173.338 Nitrogen tetroxide-nitric oxide mixtures containing up to 33.2 percent weight nitric oxide.
173.343 Poison B.
173.344 General packaging requirements for Poison B liquids.
173.345 Limited quantities of Poison B liquids.
173.346 Poison B liquids not specifically provided for.
173.347 Aniline oil.
173.348 Arsenic acid.
173.349 Carbolic acid (phenol) liquid.
173.350 Chemical ammunition.
173.351 Hydrocyanic acid solutions.
173.352 Sodium and potassium cyanide solutions.
173.353 Methyl bromide and methyl bromide mixtures.
173.353a Methyl bromide and nonflammable, nonliquefied compressed gas mixtures.
173.354 Motor fuel antiknock compound or tetraethyl lead.
173.355 Phenyldichlorarsine.
173.356 Thiophosgene.
173.357 Chloropicrin and chloropicrin mixtures containing no compressed gas or Poison A liquid.
173.358 Hexaethyl tetraphosphate; methyl parathion; organic phosphate compound, n.o.s.; organic phosphorus compound; parathion; tetraethyl dithio pyrophosphate; and tetraethyl pyrophosphate, liquid.
173.359 Hexaethyl tetraphosphate mixtures; methyl parathion mixtures; organic phosphate compound mixtures, organic phosphorus compound mixtures; parathion mixtures; tetraethyl dithio pyrophosphate mixtures; and tetraethyl pyrophosphate mixtures; liquid, (includes solutions, emulsions, or emulsifiable liquids).
173.360 Perchloro-methyl-mercaptan.
173.361 Aldrin mixtures, liquid, with more than 60 per cent aldrin.
173.362 4-Chloro-o-toluidine hydrochloride.

Sec.
173.362a Dinitrophenol solutions.
173.363 General packaging requirements for Poison B solids.
173.364 Limited quantities of Poison B solids.
173.365 Poison B solids not specifically provided for.
173.366 Arsenic (arsenic trioxide) or arsenic acid (solid).
173.367 Arsenical compounds, n.o.s.; arsenate of lead; calcium arsenate; Paris green; and arsenical mixtures.
173.368 Arsenical dust, arsenical flue dust, and other poisonous noncombustible by-product dusts; also arsenic trioxide, calcium arsenate, and sodium arsenate.
173.369 Carbolic acid (phenol), not liquid.
173.370 Cyanides and cyanide mixtures, dry.
173.371 Dinitrobenzol (dinitrobenzene).
173.372 Mercury bichloride (mercuric chloride).
173.373 Ortho-nitroaniline and para-nitroaniline.
173.374 Nitrochlorbenzene, meta or para.
173.375 Sodium azide.
173.376 Aldrin and aldrin mixtures, dry, with more than 65 percent aldrin.
173.377 Hexaethyl tetraphosphate mixtures; methyl parathion mixtures; organic phosphate compound mixtures, n.o.s.; organic phosphorus compound mixtures; parathion mixtures; tetraethyl dithio pyrophosphate mixtures; and tetraethyl pyrophosphate mixtures, dry.
173.379 Cyanogen bromide.
173.381 Irritating materials; Definition and general packaging requirements.
173.382 Irritating materials, not specifically provided for.
173.383 Chemical ammunition.
173.384 [Reserved]
173.385 Tear gas grenades, tear gas candles, or similar devices.
173.386 Ethiologic agents; definition and scope.
173.387 Packaging requirements for etiologic agents.
173.388 Labeling of packages containing etiologic agents.
173.389 Radioactive materials; definitions.
173.390 Transport groups of radionuclides.
173.391 Limited quantities of radioactive materials and radioactive devices.
173.392 Low specific activity radioactive material.
173.393 General packaging and shipment requirements.
173.393a U.S. Atomic Energy Commission approved packages; standard requirements and conditions.
173.393b International shipments and foreign-made packages; standard requirements and conditions.
173.394 Radioactive material in special form.
173.395 Radioactive material in normal form.
173.396 Fissile radioactive material.
173.397 Contamination control.
173.398 Special tests.
173.399 [Reserved]

Subpart I—Special Requirements for Certain Rail Shipments or Movements

173.400–173.425 [Reserved]
173.426 Cars, truck bodies or trailers containing lading which has been fumigated or treated with flammable liquids, flammable gases, poisonous liquids or solids, or poisonous gases.

Sec.
173.427 [Reserved]
173.430 [Reserved]
173.431 [Reserved]
173.432 Tank car shipments.

Subpart J—Other Regulated Material; Definition and Preparation

173.500 Definitions.
173.505 Exceptions for Other Regulated Material (ORM).
173.510 General packaging requirements.

Subpart K—Other Regulated Material; ORM–A

173.605 Ammonium hydrosulfide solution, ammonium polysulfide solution, bromochloromethane, dibromodifluoromethane, dichlorodifluoroethylene, dichloromethane, methyl chloroform, perfluoro-2-butene, tetrachloroethylene, and trichloroethylene.
173.610 Camphene.
173.615 Carbon dioxide, solid (dry ice).
173.620 Carbon tetrachloride, ethylene dibromide (1,2-dibromoethane), and tetrachloroethane.
173.630 Chloroform.
173.635 Ferrophosphorus.
173.645 Ferrosilicon.
173.650 Hexachloroethane.
173.655 Naphthalene or naphthalin.

Subpart L—Other Regulated Material; ORM–B

173.800 Ammonium hydrogen fluoride, ammonium hydrogen sulfate, ammonium fluoride, barium oxide, chloroplatinic acid, copper chloride, ferric chloride, lead chloride, molybdenum pentachloride, potassium hydrogen sulfate, sodium aluminate, sodium hydrogen sulfate, and/or sodium hydrogen sulfite, (each in solid form).
173.850 Lime, unslaked; quicklime; and calcium oxide.
173.860 Mercury, metallic.
173.861 Gallium metal, liquid.
173.862 Gallium metal, solid.

Subpart M—Other Regulated Material; ORM–C

173.910 Ammonium sulfate nitrate.
173.915 Battery parts.
173.920 Bleaching powder.
173.925 Box toe board.
173.930 Burlap bags, used and unwashed or not cleaned.
173.931 Burlap cloth, burlap bags, new, used, and washed, or vacuum cleaned, wheel cleaned, or otherwise mechanically cleaned.
173.945 Calcium cyanamide, not hydrated.
173.952 Castor beans and Castor pomace.
173.955 Coconut meal pellets.
173.960 Copra.
173.965 Cotton and other fibers.
173.970 Cotton batting, batting dross, wadding, seed hull fiber, shavings, pulp, and cut linters.
173.975 Cotton sweepings; and textile, cotton, felt, or wool waste.
173.980 Excelsior.
173.985 Exothermic ferrochrome, ferromanganese, and silicon–chrome.
173.990 Feed, wet, mixed.
173.995 Fish scrap and fish meal.
173.1000 Garbage tankage, rough ammoniate tankage, or tankage fertilizer.
173.1005 Hay or straw.
173.1010 Lead dross or scrap.
173.1020 Magnetized material.
173.1025 Metal borings, shavings, turnings or cuttings.
173.1030 Oakum or twisted jute packing.
173.1035 Oiled material.
173.1040 Pesticide, water-reactive.

Sec.
173.1045 Petroleum coke, uncalcined.
173.1060 Rosin.
173.1065 Rubber curing compound, solid.
173.1070 Sawdust or wood shavings.
173.1075 Scrap paper or waste.
173.1080 Sulfur.
173.1085 Yeast, active (in liquid or compressed form).

Subpart N—Other Regulated Material: ORM–D

Sec.
173.1200 Consumer Commodity.

Appendix A—Method of testing corrosion to skin.

AUTHORITY: 18 U.S.C. 834, 46 U.S.C. 170 (7) (49 U.S.C. 1471, 1472(h) (1), 1807), 49 CFR 1.53(e)–(h).

AUTHORITY: 49 U.S.C. 1803, 1804, 1808; 49 CFR 1.53(e).

EFFECTIVE DATE NOTE: Jan. 3, 1977, for the above authority. See 41 FR 38180.

EFFECTIVE DATE NOTE: (1) Except as provided in paragraphs (2) through (4), compliance with the provisions of this amendment is not mandatory until January 1, 1977.

(2) Compliance with the provisions of this amendment pertaining to the information required to appear on a shipping paper or the format of a shipping paper, is not mandatory until July 1, 1977. (See note to 49 CFR 172.204(a) regarding delayed compliance with that section's required use of a newly worded shipper's certification.)

(3) A package filled, marked or labeled before July 1, 1976, in accordance with regulations in effect on June 30, 1976, may be offered for transportation and transported, even though it does not comply with the package, marking and labeling provisions of this amendment, if it (i) is offered for transportation before July 1, 1977, and (ii) complies with the package, marking and labeling regulations in effect on June 30, 1976.

(4) Compliance with the provisions of this amendment appearing in Subpart F of Part 172 (Placarding) is not mandatory until July 1, 1977.

(5) Under the authority of any of the preceding four numbered paragraphs:

(i) When a provision of this amendment is not complied with, the comparable provision (if any) of the regulations in effect on June 30, 1976, shall be complied with; however,

(ii) The hazard class and description of a material indicated on a shipping paper must be the same as the hazard class indicated on the label (if any) displayed, and the description marked, on the package containing that material.

(6) For purposes of the application of Part 174 (except § 174.25) to rail cars from July 1, 1976, to July 1, 1977, placards specified in this amendment, and placards specified under regulations in effect on June 30, 1976, may be treated as equivalent according to the following table:

Hazard class (material)	Placard adopted under docket No. HM–103/112	Equivalent placard required by pt. 174 on June 30, 1976
Explosives A	EXPLOSIVES A	EXPLOSIVES.
Explosives B	EXPLOSIVES B	DANGEROUS.
Explosives C	FLAMMABLE	None.
Flammable liquid	FLAMMABLE	DANGEROUS.
Flammable solid	FLAMMABLE SOLID	DANGEROUS.
Oxidizer	OXIDIZER	DANGEROUS.
Corrosive liquid	CORROSIVE	DANGEROUS.
Nonflammable gas	NONFLAMMABLE GAS	DANGEROUS.
Flammable gas	FLAMMABLE GAS	DANGEROUS.
Poison A	POISON GAS	POISON GAS.
Poison B	POISON	DANGEROUS.
Radioactive material	RADIOACTIVE	DANGEROUS—RADIOACTIVE MATERIAL.
Organic peroxide	ORGANIC PEROXIDE	DANGEROUS.
(Chlorine)	CHLORINE	DANGEROUS.
(Oxygen, pressurized liquid)	OXYGEN	DANGEROUS.

(7) This amendment does not terminate any outstanding exemption issued under 49 CFR, Part 107 or its predecessor authorities. Any exemption from a regulatory requirement in effect on June 30, 1976, which is modified or replaced by this amendment, continues in effect:

(i) By its own terms, to the extent that continued compliance with that regulatory requirement is required or authoriezd by this amendment; and

(ii) For any provision of this amendment which is equivalent to that regulatory requirement.

NOTE: For a notice document notifying shippers of hazardous materials of the applicable regulations in this part see 40 FR 33066, Aug. 6, 1975.

Subpart A—General

§ 173.1 Purpose and scope.

(a) This part defines hazardous materials for transportation purposes and prescribes certain requirements to be observed in preparing them for shipment by air, highway, rail, or water, or any combination thereof.

(b) A shipment that is not prepared for shipment in accordance with this subchapter may not be offered for transportation by air, highway, rail, or water. It is the duty of each person who offers hazardous materials for transportation to instruct each of his officers, agents, and employees having any responsibility for preparing hazardous materials for shipment as to applicable regulations in this subchapter.

(c) When a person other than the person preparing a hazardous material for shipment performs a function required by this part, that person shall perform the function in accordance with this part.

[Amdt. 173–94, 41 FR 16062, Apr. 15, 1976, as amended by Amdt. 173–100, 41 FR 40476, Sept. 20, 1976]

EFFECTIVE DATE NOTE: § 173.1(c) added, effective Jan. 3, 1977.

§ 173.2 Classification of a material having more than one hazard as defined in this part.

(a) Except as provided in paragraph (b) of this section, a hazardous material, having more than one hazard as defined in this part must be classed according to the following order of hazards:

(1) Radioactive material.
(2) Poison A.
(3) Flammable gas.
(4) Non-flammable gas.
(5) Flammable liquid.
(6) Oxidizer.
(7) Flammable solid.
(8) Corrosive material (liquid).
(9) Poison B.
(10) Corrosive material (solid).
(11) Irritating materials.
(12) Combustible liquid (in containers having capacities exceeding 110 gallons).
(13) ORM-B.
(14) ORM-A.
(15) Combustible liquid (in containers having capacities of 110 gallons or less.)

(b) *Exceptions.* Paragraph (a) of this section does not apply to—(1) a material specifically identified in § 172.101 of this subchapter;

(2) An explosive required to be classed and approved by § 173.86.

(3) An etiologic agent identified in § 173.386 as those materials listed in 42 CFR 72.25(c); or

(4) An organic peroxide. See § 172.101 and 173.151a of this subchapter.)

[Amdt. 173-94, 41 FR 16062, Apr. 15, 1976, as amended by Amdt. 173-94A, 41 FR 40680, Sept. 20, 1976.]

§ 173.3 Packaging and exceptions.

(a) The packaging of hazardous materials for transportation by air, highway, rail, or water must be as specified in this part. Methods of manufacture, packing, and storage of hazardous materials, that affect safety in transportation, must be open to inspection by a duly authorized representative of the initial carrier or a representative of the Department. Methods of manufacture and related functions necessary for completion of a DOT specification packaging must be open to inspection by a representative of the Department.

(b) The regulations setting forth packaging requirements for a specific material apply to all modes of transportation unless otherwise stated, or unless exceptions from packaging requirements are authorized. For example, the restriction in § 173.249(b) applicable to cargo-only aircraft applies only to quantities in excess of those allowable under § 173.244. Quantities covered under § 173.244 may also be shipped by cargo-only aircraft.

[Amdt. 173-94, 41 FR 16062, Apr. 15, 1976, as amended by Amdt. 173-94A, 41 FR 40680, Sept. 20, 1976]

§§ 173.4—173.5 [Reserved]

§ 173.6 Shipments by air.

(a) *General shipping requirements.* When the regulations indicate a hazardous material is forbidden aboard cargo-only aircraft, the material is also forbidden aboard passenger-carrying aircraft.

(b) *General packaging requirements.* (1) In addition to the requirements of this part and Parts 175 and 178 of this subchapter, for air shipments each packaging must be designed and constructed to prevent leakage that may be caused by changes in altitude and temperature during air transportation.

(2) Inner containers that are breakable (such as earthenware, glass, or brittle plastic), must be packaged to prevent breakage and leakage under conditions normally incident to transportation. These completed packagings must be capable of withstanding a 4-foot drop on solid concrete in the position most likely to cause damage. Cushioning and absorbent materials must not be capable of reacting dangerously with the contents. Where any plastic packaging is specified in this part, a plastic bag or pouch is not permitted unless specifically authorized.

(3) For any packaging with a capacity of 110 gallons or less containing liquid, sufficient outage (ullage) must be provided to prevent liquid contents from completely filling the packaging at 130° F. The primary packaging (which may include composite packaging), for which retention of the liquid is the basic function, must be capable of withstanding an internal gauge pressure of no less than 11 lbs./sq. in. (0.75 kg/sq. cm.) without leakage. In addition, the primary packaging must be capable of withstanding, without leakage, an internal pressure equivalent to the sum of the absolute vapor pressure of the contents at 130° F. (55° C.) and the atmospheric pressure at sea level.

(4) Stoppers, corks, or other such friction-type closures must be held securely, tightly, and effectively in place with wire, tape, or other positive means. Each screw-type closure on any inside plastic packaging must be secured to prevent the closure from loosening due to vibration or subtantial changes in temperature.

(5) Bags permitted by regulations as outside packaging for transportation aboard aircraft must be water resistant.

(6) For any cylinder containing hazardous materials incorporating valves, sufficient protection must be provided to prevent operation and damage to such valves during transportation, by one of the following methods:

(i) By equipping each cylinder with securely attached valve caps or protective headrings, or

(ii) By boxing or crating of the cylinder.

(7) Tank cars and tank motor vehicles containing hazardous materials may not be transported aboard aircraft.

(c) *Special labeling requirements.* See "Magnetized materials" in §§ 172.101 and 173.1020 of this subchapter and see § 172.101 for cargo-only aircraft labeling requirements.

[Amdt. 173-94, 41 FR 16063, Apr. 15, 1976]

§ 173.7 U.S. Government material.

(a) Shipments of hazardous materials offered by or consigned to the Department of Defense (DOD) of the U.S. Government must be packaged, including limitations of weight, in accordance with the regulations in this subchapter or in containers of equal or greater strength and efficiency as required by DOD regulations.

(1) Hazardous materials sold by the DOD in packagings that are not marked in accordance with the requirements of this subchapter my be shipped from DOD installations if the DOD certifies in writing that the packagings are equal to or greater in strength and efficiency than the packaging prescribed in this subchapter. The shipper shall obtain such a certification in duplicate for each shipment. He shall give one copy to the originating carrier and retain the other for no less than 1 year.

(b) Shipments of radioactive materials, made by or under the direction or supervision of the U.S. Energy and Research and Development Administration or the Department of Defense, and which are escorted by personnel specifically designated by or under the authority of those agencies, for the purpose of national security, are not subject to the regulations in Parts 100-189 of this subchapter.

[29 F.R. 18671, Dec. 29, 1964, as amended by Order 74, 32 F.R. 5274, Mar. 29, 1967. Redesignated, 32 FR 5606, Apr. 5, 1967; Amdt. 173-71, 38 FR 7561, Mar. 23, 1973; Amdt. 173-94, 41 FR 16063, Apr. 15, 1976.]

§ 173.8 Canadian shipments and packagings.

(a) Shipments of hazardous materials which conform to the regulations of the Canadian Transport Commission (formerly the Board of Transport Commissioners for Canada), may be transported from the point of entry in the United States to their destination in the United States, or through the United States en route to a point in Canada.

(b) Except as specified in § 173.301(l), specification packagings made and maintained in full compliance with the corresponding specifications prescribed by the Railway Transport Committee of the Canadian Transport Commission (formerly the Board of Transport Commissioners for Canada) in its regulations for the Transportation of Dangerous Commodities by Rail, and marked in accordance therewith (e.g., BTC, RTC, etc.) may be used for the shipment of hazardous materials within the United States.

[Amdt. 173-11, 34 F.R. 12589, Aug. 1, 1969]

§§ 173.9—173.11 [Reserved]

Subpart B—Preparation of Hazardous Materials for Transportation

SOURCE: 29 FR 18671, Dec. 29, 1964, unless otherwise noted. Redesignated at 32 FR 5606, Apr. 5, 1967.

§ 173.21 Prohibited packing.

(a) The offering of packages of hazardous materials in the same packaging, freight container, or overpack with other hazardous materials, the mixture of contents of which would be liable to cause a dangerous evolution of heat or gas or produce corrosive materials, is forbidden except as specified in §§ 173.152(a), 173.242 (a), (b), and 173.301(a).

(b) The offering for transportation of any package or container of any liquid, solid or gaseous material which under conditions incident to transportation may polymerize (combine or react with itself) or decompose so as to cause dangerous evolution of heat or gas is prohibited. Such materials may be offered for transportation when properly stabilized or inhibited. Refrigeration may be used as a means of stabilization only when approved by the Bureau of Explosives.

(c) The offering for transportation of any package or container of any material which will cause a dangerous evolution of heat or gas under conditions normally incident to transportation is forbidden.

(d) The offering for transportation of any package containing a cigarette lighter or other similar ignition device charged with fuel and equipped with an ignition element, or any self-lighting cigarette, is forbidden unless the design of the device and its packaging insofar as they affect safety in transportation have been:

(1) Examined and approved by the Bureau of Explosives, and

(2) A report of the results of this examination, together with the Bureau of Explosives' approval, has been sent to and acknowledged by the Office of Hazardous Materials Operations, Materials Transportation Bureau. For lighters containing flammable gas, also see § 173.308.

[29 FR 18671, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16063, Apr. 15, 1976]

§ 173.22 Shipper's responsibility.

(a) When a container is supplied by the shipper, the shipper shall be responsible to determine that shipments of hazardous materials are made in containers which, unless otherwise provided in this part, have been made, assembled with all parts or fittings in their proper place and properly secured, and marked in compliance with applicable specifications prescribed in Parts 178 and 179 of this subchapter or with specifications of the Department in effect at date of manufacture of container. The shipper may accept the manufacturer's certification or specification marking to determine that specification containers were manufactured in accordance with applicable specifications (see § 173.0-2 of this subchapter). When a shipper performs a function covered by, or having an effect on a specification requirement of Part 178 or Part 179, the shipper must perform that function in accordance with the specification.

(b) Prior to each shipment of fissile radioactive materials, and Type B or large quantities of radioactive materials, the shipper shall notify the consignee of the dates of shipment and of expected arrival. The shipper shall also notify each consignee of any special loading/unloading instructions prior to his first shipment.

[Amdt. 173-3, 33 FR 14921, Oct. 4, 1968; Amdt. 173-14, 34 FR 17523, Oct. 30, 1969; Amdt. 173-94, 41 FR 16063, Apr. 15, 1976; Amdt. 173-100, 41 FR 40476, Sept. 20, 1976]

EFFECTIVE DATE NOTE: § 173.22(a), revised, effective Jan. 1, 1977. For the convenience of the user, the superseded text is set out below:

§ 173.22 * * *

(a) Where containers are supplied by the shipper, the shipper shall be responsible to determine that shipments of hazardous materials are made in containers which, unless otherwise provided in this part (see § 171.12 (c)), have been made, assembled with all parts or fittings in their proper place, and marked in compliance with applicable specifications prescribed in Parts 178 and 179 of this subchapter or with specifications of the Department in effect at date of manufacture of container. The shipper may accept the manufacturer's certification or specification marking to determine that the containers were manufactured in accordance with applicable specifications. Where containers are supplied by the carrier, the shipper shall determine that the containers in which commodities are to be loaded are proper containers for the transportation of such commodities by examining the manufacturer's identification plate, specification marking, or certification by the carrier.

§ 173.22a Use of packagings authorized under exemptions.

(a) Except as provided in paragraph (b) of this section, no person may offer a hazardous material for transportation in a packaging the use of which is dependent upon an exemption issued under Subpart B of Part 107 of this title, unless that person is the holder of or a party to the exemption.

(b) If an exemption authorizes the use of a packaging for the shipment or transportation of a hazardous material by any person or class of persons other than or in addition to the holder of the exemption, that person or a member of that class of persons may use the packaging for the purposes authorized in the exemption subject to the terms specified therein. However, no person may use a packaging under the authority of this paragraph unless he maintains a copy of the exemption at each facility where the packaging is being used in connection with the shipment or transportation of the hazardous material concerned. Copies of exemptions may be obtained from the Office of Hazardous Materials Operations, U.S. Department of Transportation, Washington, D.C. 20590, Attention: Docket Section.

[Amdt. 173-93, 41 FR 3478, Jan. 23, 1976]

§ 173.23 Previously authorized packaging.

(a) Where the regulations require Spec. 6D or 37M (§ 178.102 or § 178.134 of this subchapter) **cylindrical steel overpacks, Spec. 5B, 6J, or 37A (single-trip container) (§ 178.82, § 178.100, or § 178.131** of this subchapter) metal drums manufactured before March 18, 1964, having inside Spec. 2S, 2SL, 2T, or 2TL (§ 178.21, § 178.27, § 178.35, or § 178.35a of this subchapter) polyethylene container, may be continued in use for the commodities and gross weights for which they were previously authorized.

(b) Reusable molded polyethylene containers for use without overpack complying with Spec. 34 (§ 178.19 of this subchapter), manufactured before September 5, 1966, may be continued in use, if they are plainly marked "ICC-34," and **are embossed with the maker's name or symbol, rated capacity, and the month and year of manufacture.**

[Amdt. 173-3, 33 F.R. 14921, Oct. 4, 1968, as amended by Amdt. 173-90, 39 FR 45240, Dec. 31, 1974; Amdt. 173-94; 41 FR 16063, Apr. 15, 1976]

§ 173.24 Standard requirements for all packages.

(a) Each package used for shipping hazardous materials under this subchapter shall be so designed and constructed, and its contents so limited, that under conditions normally incident to transportation—

(1) There will be no significant release of the hazardous materials to the environment;

(2) The effectiveness of the packaging will not be substantially reduced; and

(3) There will be no mixture of gases or vapors in the package which could, through any credible spontaneous increase of heat or pressure, or through an explosion, significantly reduce the effectiveness of the packaging.

(b) Materials for which detailed specifications for packaging are not set forth in this part must be securely packaged in strong, tight packages meeting the requirements of this section.

(c) Packaging used for the shipment of hazardous materials under this subchapter shall, unless otherwise specified or exempted therein, meet all of the following design and construction criteria:

(1) Each specification container must be marked as follows:

(i) In an unobstructued area with letters and numerals identifying the container specification (e.g., DOT-1A, DOT-17E-304HT, DOT-23G40). See § 178.0-2 of this subchapter.

(ii) The name and adress or symbol of person making the mark specified in paragraph (c)(1)(i) of this section. Symbol letters, if used, must be registered with the Bureau of Explosives. Duplicate symbols are not authorized.

(iii) The markings must be stamped, embossed, burned, printed, or otherwise marked on the packaging to provide adequate accessibility, premanency, and contrast so as to be readily apparent and understood.

(iv) Unless otherwise specified, letters and numerals must be at least ½ inch high.

(v) Packaging which does not comply with the applicable specification listed in Parts 178 and 179 of this subchapter must not be marked to indicate such compliance (see § 178.0-2 and § 179.1 of this subchapter).

(2) Steel used shall be low-carbon, commercial quality steel. Stainless, open hearth, electric, basic oxygen, or other similar quality steels are acceptable. Steel sheets of specified gauges shall comply with the following:

Gauge No.	Nominal thickness (inches)	Minimum thickness (inches)
12	0.1046	0.0946
13	0.0897	0.0817
14	0.0747	0.0677
15	0.0673	0.0603
16	0.0598	0.0533
17	0.0538	0.0478
18	0.0478	0.0428
19	0.0418	0.0378
20	0.0359	0.0324
22	0.0299	0.0269
23	0.0269	0.0239
24	0.0239	0.0209
26	0.0179	0.0159
28	0.0149	0.0129
30	0.0120	0.0110

(3) Lumber used shall be well seasoned, commercially dry, and free from decay, loose knots, knots that would interfere with nailing, and other defects that would materially lessen the strength.

(4) Welding and brazing shall be performed in a workmanlike manner using suitable and appropriate techniques, materials, and equipment.

(5) Packaging materials and contents shall be such that there will be no significant chemical or galvanic reaction among any of the materials in the package.

(6) Closures shall be adequate to prevent inadvertent leakage of the contents under normal conditions incident to transportation. Gasketed closures shall be fitted with gaskets of efficient material which will not be deteriorated by the contents of the container.

(7) Nails, staples, and other metallic devices shall not protrude into the interior of the outer packaging in such a manner as to be likely to cause failures.

(8) The nature and thickness of the packaging shall be such that friction during transport does not generate any heating likely to decrease the chemical stability of the contents.

(9) Polyethylene used must be of a type compatible with the lading and must not be permeable to an extent that a hazardous condition could be caused during transportation and handling.

(d) For specification containers, compliance with the applicable specifications in Parts 178 and 179 of this subchapter shall be required in all details, except as otherwise provided in this subchapter.

[Amdt. 173-3, 33 FR 14921, Oct. 4, 1968, as amended by Amdt. 173-11, 34 FR 12589, Aug. 1, 1969; Amdt. 173-20, 35 FR 5550, Apr. 3, 1970; Amdt. 173-94, 41 FR 16063, Apr. 15, 1976; Amdt. 173-100, 41 FR 38180, Sept. 9, 1976]

EFFECTIVE DATE NOTE: § 173.24(c)(1), revised, effective Jan. 3, 1977. For the convenience of the user, the superseded text is set out below:

(c) * * *

(1) Each specification container shall be marked in an unobstructed area with letters and numerals identifying that specification (e.g., ICC-6J, DOT-6L, DOT MC 306, DOT-105A200-F);

(i) The marking is a certification that the packaging complies with all specification requirements.

(ii) The name and address or the symbol of the manufacturer, or the user, who assumes responsibility for compliance with the specification requirements, shall be included. Symbol letters must be registered with the Bureau of Explosives. Duplicate symbols are not authorized.

(iii) The markings shall be stamped, embossed, burned, printed, or otherwise marked on the packaging to provide adequate accessibility, permanency, and contrast so as to be readily apparent and understood.

(iv) Unless otherwise specified, letters and numerals shall be at least ½-inch high.

(v) Packaging which does not comply with the applicable specification listed in Parts 178 and 179 of this subchapter must not be marked to indicate such compliance.

§ 173.25 Authorized packages in outside containers.

(a) Authorized packages containing no corrosive liquids may be shipped when tightly packed in a strong outside fiberboard box or drum, wooden box, barrel or crate, metal barrel or drum, or overpack, meeting the requirements of §§ 173.21 and 173.24. The outside container must be marked with the proper shipping name and labeled as required by this subchapter for each hazardous material contained therein unless markings and labels representative of each material in the outside container are visible. Packages required by the regulations in this subchapter to be marked "THIS SIDE UP" or "THIS END UP" must be packed in the outside container with their filling holes up and the outside container marked "THIS SIDE UP" or "THIS END UP" to indicate the upward position of closures. The outside container must also be marked "INSIDE PACKAGES COMPLY WITH PRESCRIBED SPECIFICATIONS" when specification packagings are required unless the specification markings on the inside packaging are visible.

(b) Authorized packages containing acids or other corrosive liquids except nitric acid, perchloric acid, or hydrogen peroxide, solution containing over 52 percent hydrogen peroxide by weight, may be shipped when tightly packed in a strong outside fiberboard or wooden box, wooden crate or overpack, meeting the requirements of §§ 173.21 and 173.24 provided such outside container shall not contain any other hazardous material except under the following conditions:

(1) As provided in §§ 173.242, 173.257, 173.258, 173.259, 173.260, 173.261, and 173.286.

(2) Electrolyte acid or alkaline corrosive battery fluid in packages prescribed in §§ 173.257 and 173.258 may be included in outside shipping containers with dry charged storage batteries when packed to prevent movement within the outside containers.

(3) The outside container must be marked with the proper shipping name and labeled as required by this subchapter for each hazardous material contained within unless the markings and labels representative of each material in the outside container are visible. The outside container must be marked "THIS SIDE UP" or "THIS END UP" to indicate the upward position of closures and also marked "INSIDE PACKAGES COMPLY WITH PRESCRIBED SPECIFICATIONS" when specification packagings are required unless the specification markings on the inside packagings are visible.

[29 F.R. 18671, Dec. 29, 1964, as amended by Amdt. 173-94, 41 FR 16063, Apr. 15, 1976]

§ 173.26 Quantity limitations.

(a) When quantity limitations are specified in Parts 170-189 of this subchapter by United States liquid measure or by avoirdupois weight it is authorized that quantities measured by the metric system may be substituted, up to but not exceeding 1 gallon for liquids and 10 pounds for solids, on the basis of 1 liter per quart specified and 500 grams per pound specified.

(b) When quantity limitations do not appear in the packaging requirements of this subchapter, the permitted gross weight or capacity authorized for a container to be offered for transportation is as shown in the container specification. (See also § 173.27.)

[29 CFR 18671, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16064, Apr. 15, 1976.]

§ 173.27 Aircraft quantity limitations.

(a) The maximum quantity of hazardous material that may be offered for transportation by air in a package that is required for the material by this subchapter may not exceed that quantity prescribed for the material in § 172.101 of this subchapter.

(b) When offered for transportation by air, the combined quantity of any one class of materials may not exceed the lowest maximum quantity prescribed in 172.101 of this subchapter for any one of the materials in that class contained in the same package that meets the minimum requirements for the material contained therein.

[Amdt. 173-94, 41 FR 16064, Apr. 15, 1976]

§ 173.28 Reuse of containers.

(a) Containers used more than once (refilled and reshipped after having been previously emptied) must be in such condition, including closure devices and cushioning materials, that they comply in all respects with the prescribed requirements for those containers. Repairs must be made in an efficient manner in accordance with requirements for materials and construction as prescribed in Parts 178 and 179 of this subchapter for new containers, or as otherwise prescribed. Parts that are weak, broken, or otherwise deteriorated must be replaced.

(1) Retest of carboy packages must have been made by or for shippers, or their authorized agents, as required by applicable provisions of the specifications in Part 178 of this subchapter before carboys which are to be offered for transportation are filled.

NOTE 1: Tests not required by shipper who fills and ships or who reships filled carboys for one shipment only carboy packages which have been properly tested by another shipper or a duly authorized agency.

(b) Markings applied as prescribed by the specifications must be maintained in a legible condition.

(c) If, on account of painting or any other reason, the markings as prescribed for any container cannot be kept plain and legible, a metal plate, brazed or soldered, or otherwise securely fastened to the container, with a reproduction of the prescribed markings plainly stamped thereon, will be permitted.

(d) Containers previously used for the shipment of any hazardous material must have the old markings, including name of contents, addresses, and labels, if any, thoroughly removed or obliterated before being used for the shipment of other articles.

(e) Boxes previously used for high explosives containing a liquid explosive ingredient not contained in an inside metal container must not be again used for shipments of any character.

(1) Boxes that have been contaminated by liquid explosive compositions must not again be used for shipments of any character.

(f) Kegs previously used for any chlorate must not be again used for shipments of any character.

(g) Metal kegs previously used for black powder not contained in an interior package must not be again used for shipment of any explosive.

Note 1: Because of the present emergency and until further order of the Department, metal kegs, previously used for the shipment of black powder not contained in an interior package, may be used provided the kegs are in good physical condition and are not liable to permit escape of contents during transportation. Empty kegs previously used for shipment of black powder must be entirely free of black powder on the inside and outside before being offered for transportation.

(h) Except as provided in paragraphs (m) and (n) of this section and subparagraph (1) of this paragraph, single-trip containers made under specifications prescribed in Part 178 of this subchapter, from which contents have once been removed following use for shipment of any material, must not be used thereafter for shipment of hazardous materials.

(1) Single-trip containers inspected and tested prior to January 1, 1971, that have been approved for reuse by the Bureau of Explosives may be used until July 1, 1971, under the terms and conditions specified.

(i) Containers which are designated as nonreusable containers, marked NRC, and made under specifications prescribed in Part 178 of this subchapter, from which contents have once been removed following use for shipment of any article, must not be again used as shipping containers for explosives, flammable liquids, flammable solids, organic peroxides, oxidizers, corrosive liquids, or poisons, class B or C, as defined in this part.

(j) Cylinders or other containers which are designated as nonrefillable or for single-trip use under the specifications prescribed in Part 178 of this chapter, and from which contents have once been removed following use for the shipment of any article, must not be again used as shipping containers for compressed gases.

(k) Containers used for shipments of etching acid liquid, n.o.s. must not be reused for shipment of any commodity.

(l) Cylinders used in anhydrous hydrofluoric acid service must comply with the requirements of § 173.264(b)(1) and must not be used in any other service.

(m) Specifications 17C, 17E, and 17H steel drums (§§ 178.115, 178.116, 178.118 of this subchapter) from which contents have been removed, may be reused as prescribed in this Part as packagings for shipment of flammable liquids, flammable solids, organic peroxides, oxidizers, radioactive materials, and corrosive liquids covered by §§ 173.249 and 173.249a, only if the following requirements of this only if the following requirements, in addition to the other requirements of this section, are complied with prior to each reuse:

(1) Each drum must be thoroughly cleaned to remove all residues and foreign matter, inspected for deterioration or defects, and returned to its original shape and contour. All closure devices and parts must be removed (if removable), inspected for defects, and replaced as necessary. Each open head cover gasket must be replaced. Any drum which shows evidence of deterioration (e.g., visible pitting; creases; significant reduction in parent metal thickness from rust, corrosion, or cleaning processes; metal fatigue; or other material defects) or which cannot be returned to its original shape and contour does not qualify for reuse.

(2) The entire surface of each closed-head drum (and after December 31, 1971, each open-head drum, except for its removable head and adjacent chime area) must be tested for leakage by constant internal air pressure. The leakage test must be conducted by submersion under water, by completely covering the surface with soap suds or oil, or by some other method that will be equally sensitive. The air pressure must be maintained for a period of time sufficient to permit a complete inspection for leaks. The minimum air pressure for the test must be as follows:

Specification No.	Capacity	Minimum test pressure p.s.i.
17C	All	15
17E	Over 12 gallons	7
	12 gallons or less	5
17H	Over 12 gallons	7
	12 gallons or less	5

If leaking, the drum does not qualify for reuse.

(3) Marking:

(i) All previous test markings, commodity identification markings, and labels must be removed.

(ii) The outside of each drum qualifying for reuse under this section must be marked on the body within 10 inches of the top head with the following information: "Tested" (or "Inspected" as appropriate), the month and year of the test (or inspection, if an open-head drum), and the DOT registration number of the reconditioner. For example:

TESTED 2/70
DOT R1001

The registration number required for this marking must be obtained from the Office of Hazardous Materials, Department of Transportation, Washington, D.C. 20590.

(iii) Markings must be in at least ¼-inch figures and letters on a contrasting background.

(iv) The printed marking of the month and year of test is not required if each is clearly indicated by other means, such as perforations on a decal.

(n) A single-trip packaging (STC) may be reused for the shipment of any corrosive solid, ORM–A, ORM–B, ORM–C, or any material not required by this subchapter to be shipped in a DOT specification packaging and paragraph (m) of this section does not apply to these materials.

(o) Any drum meeting one specification which has been altered to meet another specification must be capable of meeting the new specification in all respects.

(1) Each drum so altered must be inspected, tested, and marked in accordance with paragraph (m) of this section. In addition, the drum must—

(i) Bear the specification markings required by the specification under which it was originally manufactured, and

(ii) Bear both the old and the new specification identification in conjunction with the markings required by paragraph (m) of this section with the specification to which the drum is converted shown last, e.g., "17E/17H". For example:

17E/17H

TESTED 2/70

DOT R1001

[29 FR 18671, Dec. 29, 1964, as amended by Order 66, 30 FR 5743, Apr. 23, 1965; Amdt. 173–3, 33 FR 14921, Oct. 4, 1968; Amdt. 173–31, 35 FR 12275, July 31, 1970; Amdt. 173–31A, 35 FR 19021, Dec. 16, 1970; Amdt. 173–77, 38 FR 35470, Dec. 28, 1973; Amdt. 173–94, 41 FR 16064, April 5, 1976; Amdt. 173–94A, 41 FR 40680, Sept. 20, 1976]

§ 173.29 Empty packagings, portable tanks, cargo tanks, and tank cars.

(a) Empty cylinders, barrels, kegs, drums, or other containers except carboys (see paragraph (c) of this section) previously used for the shipment of any hazardous materials, as defined in this part, if authorized for reuse must have all openings including removable heads, filling and vent holes, tightly closed before being offered for transportation. Small quantities of the material with which containers were loaded may remain in "empty" containers and when the vapors remaining therein are unstable, it is permissible to add sufficient inert gas to render the vapors stable.

(b) They may be loaded in open or stock cars when desired. Cars should not be placarded but lighted open-flame lanterns or other open-flame lights should be kept away.

(c) Carboys previously used for the shipment of corrosive liquids when offered to carriers for transportation as "empty" carboys, must have been thoroughly (completely) drained. Whenever practicable they should not be loaded with valuable or perishable freight.

(d) Empty bottles other than carboys previously used for the shipment of corrosive liquids must be securely stoppered.

(e) Any packaging or accessory which has been used for a shipment of radioactive materials and which contains residual internal radioactive contamination, when shipped as empty, must be securely closed. The external surface must be free of significant removable radioactive contamination as provided in § 173.397(a). The radiation at the external surface of the packaging must not exceed 0.5 millirem per hour. The "Empty" label, described in § 173.420, must be affixed to the packaging.

(f) Unless otherwise specifically provided, any empty packaging offered for transportation (see paragraph (a) of this section) bearing labels described in §§ 172.411 through 172.446 (except § 172.450 of this subchapter) must have these labels removed, obliterated, or completely covered. The label described in § 173.420 is authorized for the latter purpose. Each packaging which last contained explosives and on which the word "EXPLOSIVES" or the shipping name is printed, stenciled, or otherwise marked or applied, when shipped as empty, must have this marking completely covered or obliterated if shipped in less-than-carload or less-than-truckload lots, or on open-top or flat cars or on open-top or flat bed motor vehicles or trailers. Covering or obliteration of these labels and markings is not required for carload or truckload shipments made in closed cars or van-type motor vehicles when loaded by the shipper and unloaded by the consignee or their authorized agents.

(g) An empty portable tank, cargo tank, tank car or multi-unit tank car tank may not be offered for transportation unless—

(1) Each opening is tightly closed except heater coil inlet and outlet pipes of empty tank cars and

(2) Except as otherwise specified in this subchapter it is offered for transportation in the same manner as was required when it previously contained a greater quantity of a hazardous material. This requirement, as well as other provisions in this subchapter, does not apply to any tank that has been cleaned or purged of all hazardous materials residue or when it is reloaded with a material not subject to this subchapter.

[29 FR 18671, Dec. 29, 1964. Redesignated 32 FR 5606, April 5, 1967, and amended by Amdt. 173-61, 37 FR 5947, Mar. 23, 1972; Amdt. 173-70, 38 FR 5307, Feb. 27, 1973; Amdt. 173-94, 41 FR 16064, Apr. 15, 1976; Amdt. 173-94, 41 FR 40680, Sept. 20, 1976]

§ 173.30 Loading and unloading of transport vehicles.

A person who loads or unloads hazardous materials into or from a transport vehicle or vessel shall comply with the applicable loading and unloading requirements of Parts 174, 175, 176, and 177 of this subchapter.

[Amdt. 173-94, 41 FR 16064, Apr. 15, 1976]

§ 173.31 Qualification, maintenance, and use of tank cars.

(a) *General qualifications for use.* (1) Except as otherwise provided in subparagraph (2) of this paragraph, every tank car used for the transportation of dangerous articles shall meet the requirements of the applicable specification and regulations for the transportation of the particular commodity. See subparagraph (3) of this paragraph.

(2) In addition to the tanks authorized in Part 173, tanks built prior to July 1, 1927 in compliance with the American Railway Association's Specifications for Tank Cars or tanks built in compliance with previous specifications of the Department, if built or under construction on the effective dates thereof, are authorized for service as prescribed in the following table and notes, provided tanks and safety relief devices are retested as prescribed in paragraphs (c) and (d) of this section and equipped with approved valves, valve protection devices and safety relief devices.

Specifications prescribed in current regulations	Other specifications permitted (subject to the notes)	Notes
103	ARA-III, ARA-IV.	2, 3, 4
103A	ARA-III	1, 2
103B or 103B-W	ARA-III rubber lined.	2
104	ARA-IV	2, 4
105A200-W	105A100-W	5
105A200AL-W	105A100AL-W	5
105A300-W	ARA-V, ICC-105, 105-A300.	
105A400-W	105A400	
105A500-W	105A500	
105A600-W	105A600	
106A500-X	ICC-27, BE-27, 106A500	
106A800-X	106A800	
107A****		6

NOTE 1: ARA tanks must have been originally designed or subsequently reconstructed for the transportation of acids.

NOTE 2: Tank cars equipped with safety vents must have the vent closure so chained or otherwise fastened as to prevent misplacement.

NOTE 3: These cars must not be used for shipments of smokeless powder in water unless equipped with positive closure type bottom outlet valves.

NOTE 4: Until Jan. 1, 1965, on cars built prior to Jan. 1, 1959, 25 psi safety relief valves may be replaced with 35 psi safety relief valves not having an official rated capacity.

NOTE 5: Tanks built as Spec. DOT-105A100-W or 105A-100AL-W may be altered and reclassified as Spec. DOT 105A200-W or 105A200AL-W, respectively, by installing safety relief valves, retesting and stenciling in accordance with the applicable specification.

NOTE 6: The test pressures of tanks built in the United States prior to January 1, 1956, may be increased to comply with current spec. DOT-107A except that tanks built prior to 1941 are not so authorized. Original and revised test pressure must be indicated and may be shown on a plate attached to the bulkhead of the car.

(3) Unless otherwise specifically provided in Part 173, when class DOT-105AW, 105-ALW, 106A, 109A-ALW, 110AW, 111A, 112AW, or 114AW tank car tanks are prescribed, the same class tanks having higher marked test pressures than those prescribed may also be used. When class DOT-111AW1 tank car tanks are prescribed, class 111AW3 tank car tanks may also be used. When class DOT-112A tank car tanks are prescribed, class DOT-112S tanks having equal or higher marked test pressures than those prescribed may also be used. When class DOT-114A tank car tanks are prescribed, class DOT-114S tanks having equal or higher marked test pressures than those prescribed may also be used.

(4) Tank cars and appurtenances may be used for the transportation of any commodity for which they are authorized. Tank cars proposed for a commodity service other than authorized, must be approved for such service by the Association of American Railroads' Committee on Tank Cars. Transfer of a tank car from one authorized service to another may be made only by the owner or owner's authorization. Classes DOT-105A-W, 109A-W, 111A-100-W-4, 112A-W, 114A-W tank cars may be used for any commodity for which they are approved by the Committee on Tank Cars and may be stenciled accordingly. When a tank car is stenciled to indicate that it is authorized for one commodity only, it must not be used for any other service.

NOTE 1: For additional requirements for tank cars for compressed gases, see § 173.314.

(b) *Loading and shipping*—(1) *Examination before shipping.* When tanks are loaded and prior to shipping, the shipper must determine to the extent practicable, that the tank, safety appurtenances and fittings are in proper condition for the safe transportation of the lading. Tanks with bottom discharge outlets must have their outlet caps off, or outlet cap plugs open, during the entire time tanks are being loaded. After loading, tanks with bottom outlet valves which permit more than a dropping of the liquid with the outlet caps off, or the outlet cap plugs open, must not be offered for transportation until proper repairs have been made. Tanks which show any dropping or leaking of liquid contents at seams or rivets, must not be offered for transportation until proper repairs have been made.

(2) *Loading requirements for tanks with interior heater coils.* Tank cars equipped with interior heater coils, except when coils are rendered inoperative by blocking off the inlet and outlet, must be loaded with heater coil inlet and outlet caps off during entire time tanks are being loaded and show no leakage with caps off.

(3) *Securing closures.* All closures of openings in tank cars and of their protective housings must be properly secured in place by the use of a bar, wrench, or other suitable tool. A wrench having a handle at least 36 inches long must be used to apply the outlet valve cap. Manway covers and outlet valve caps must be made tight against leakage of vapor and liquid, by use of gaskets of suitable materials, before cars are tendered to carrier for transportation. Luting materials must not be used in outlet cap or on threads of bottom outlet.

(4) *Inspection of safety relief devices on class DOT-106A and 110A tanks.* Safety relief devices of the frangible disc or fusible plug type used on tanks of classes DOT-106A or 110A must be inspected before each loaded trip of tank by removing at least one vent for visual

inspection; if it shows signs of deterioration, all devices must be removed and inspected and those which do not meet the requirements must be renewed.

(5) A tank car is authorized for shipment of a hazardous material by water when in conformance with the requirements of Part 176 of this subchapter and the following limitations:

(i) On carfloats or trainships if the material is permitted aboard a cargo vessel by § 172.101 of this subchapter, or

(ii) On railroad car ferry vessels if the material is permitted aboard a passenger vessel by § 172.101 of this subchapter.

(c) *Periodic retest and reinspection of single-unit tank car tanks.* **(1) Tanks, interior heater systems, and safety relief valves must be retested periodically as specified in Retest Table 1 of this paragraph. Retests may be made at any time during the calendar year the retest falls due except as provided in the notes. Periodic retest of exterior heater systems is not a specification requirement.**

(2) Each tank must be retested by completely filling the tank and manway nozzle or expansion dome with water or other liquid of similar viscosity except as otherwise provided for in Note (d) to Retest Table 1 and applying the specified pressure for 10 minutes if the tank is not insulated, or 20 minutes if the tank is insulated. There shall be no leakage or evidence of distress. The tank insulation and jacket need not be removed unless leakage is indicated by a drop in pressure. The liquid temperature must not exceed 100° F. during the test. Calking of welded joints to stop leaks developed during retests is prohibited.

(3) Unless longer retest interval is authorized, tanks in service 10 years or over must be internally inspected and interior heater systems inspected for defects which would make leakage or failure probable during transit.

(4) Anchor rivet housings, if used, must not be removed during retest. They shall be retested by applying an air pressure of 100 psi through openings in the tank shell and must show no leakage.

(5) Interior heater systems must be retested hydrostatically at 200 psi and must show no leakage.

(6) Safety relief valves must be retested with air or gas and must start to discharge at the pressure prescribed within plus or minus 3 percent except that if the start-to-discharge pressure is under 100 psi, the valve must start to discharge at the pressure prescribed within plus or minus 3 psi. Valves must be vapor tight at the prescribed pressure.

(7) A DOT tank car built to one specification and authorized to be stenciled to another specification must be retested in accordance with the higher specification and the test pressure stenciled accordingly on the tank or jacket. An existing pressure tank car tank which is permanently converted to a lower pressure specification must have the new specification and conversion date permanently stamped in letters and figures at least ⅜-inch high on the outside of the manway nozzle or the edge of the manway nozzle flange on the left side of the car. Each car must be tested as designated in Retests Table 1 for the new specification. On a Class DOT-111A tank car, the last numeral of the specification number may be omitted from the stamping.

(8) Retests of tanks and safety relief devices must be reported by party making tests to car owner. Reports must show initials and numbers of cars, pressure to which tested, date and place of test, and by whom tested. Reports of latest retest must be retained by owner until the next retest has been accomplished and recorded.

(9) After repairs requiring welding, riveting, caulking of rivets, or hot or cold forming to restore tank contour, tanks must be retested as specified in Retest Table 1 of this paragraph before return to service. Glass, lead, or rubber-lined tanks must be retested before lining is renewed. Interior heater systems must be retested before return to service after repairs or renewals of any part of the system.

(10) The year of the test of any tank, tank safety relief valve, and heater system, and the pressure to which it was tested must be stenciled on the tank or on the jacket if insulated, except that if a retest is required specifically by the regulations during the calendar month the retest falls due, the month and year must be so stenciled. Any safety relief valve from a stock which has been tested within six months of installation may be considered as having been tested or retested in the month in which installed, providing the valve has been protected from deterioration during this period.

(11) Any glass, rubber, or lead-lined tank need not be periodically retested, but the interior heater systems and safety valves must be retested at the prescribed interval. See also subparagraph (9) of this paragraph.

(12) Any tank lined with an elastomeric polyvinyl chloride at least 3/32-inch thick or an elastomeric polyurethane at least 1/16-inch thick need not be periodically retested, but the heater system and safety relief valves must be retested at the prescribed intervals. The tank must be retested before lining is renewed.

(d) *Periodic retest and reinspection of tanks other than single-unit tank car tanks.* **(1) Tanks designed to be removed from cars for filling and emptying and tanks to spec. DOT 107A**** and their safety relief devices must be retested periodically as specified in Retest Table 2 of this paragraph. Retests may be made at any time during the calendar year the retest falls due.**

(2) Each tank, except as provided in subparagraph (d)(9) of this section, must be subjected to the specified hydrostatic pressure and its permanent expansion determined. **Pressure must be maintained for 30 seconds and as much longer as may be necessary to secure complete expansion of the tank. Pressure gauge must permit reading to an accuracy of 1 percent. Expansion gauge must permit reading of total expansion to an accuracy of 1 percent. Expansion must be recorded in cubic centimeters. Permanent volumetric expansion must not exceed 10 percent of total volumetric expansion at test pressure and tank must not leak or show evidence of distress.**

(3) Each tank, except tanks to spec. DOT 107A, must also be subjected to interior air pressure test of at least 100 psi under conditions favorable to detection of any leakage. No leaks shall appear.

(4) Safety relief valves must be retested by air or gas, must start to discharge at or below the prescribed pressure and must be vaportight at or above the prescribed pressure.

RETEST TABLE 1

Specification	Retest interval years [1]				Retest pressure—p.s.i.		
	Tank and interior heater systems			Safety relief valve	Tank	Safety relief valve	
	Up to 10 years	Over 10 to 22 years	Over 22 years			Start to discharge	Vapor tight
DOT-103	10	10	10	10	60	[a] 35	28
DOT-103AL		5	5	5	60	35	28
DOT-103W		[c] 20	10	10	60	[a] 35	28
DOT-103ALW	10	10	10	10	60	35	28
DOT-103A	[d] 5	3	1	2	60	35	28
DOT-103AW [c]	[d] 5	3	1	2	60	35	28
DOT-103A-ALW	[d] 5	3	1	(e)	60	[b] 35	28
DOT-103ANW	[d] 5	3	1	2	60	35	28
DOT-103B	[f] 5	[f] 3	[f] 1	None	60		
DOT-103BW	[f] 5	[f] 3	[f] 1	None	60		
DOT-103C	5	3	1	(e)	60	35	28
DOT-103CAL		2	1	(e)	60	35	28
DOT-103CW	[d] 5	3	1	(e)	60	[b] 35	28
DOT-103DW	[d] 5	3	1	(e)	60	35	28
DOT-103EW	[d] 5	3	1	(e)	60	35	28
DOT-104	10	10	10	10	60	[a] 35	28
DOT-104A	10	10	10	5	100	75	
DOT-104W		[c] 20	10	10	60	[a] 35	28
DOT-105			[a] 10	[a] 5	500	[a] 225	180
DOT-105A100	10	10	10	5	100	75	60
DOT-105A100ALW	10	10	10	5	100	75	60
DOT-105A100W	10	10	10	5	100	75	60
DOT-105A200ALW	10	10	10	5	200	150	120

See footnotes at end of table.

RETEST TABLE I—Continued

Specification	Retest interval years [j]				Retest pressure—p.s.i.		
	Tank and interior heater systems			Safety relief valve	Tank	Safety relief valve	
	Up to 10 years	Over 10 to 22 years	Over 22 years			Start to discharge	Vapor tight
DOT-105A200F	10	10	10	5	200	150	120
DOT-105A200W	10	10	10	5	200	150	120
DOT-105A300	[a] 10	[a] 10	[a] 10	[a] 5	300	[g] 225	180
DOT-105A300ALW	10	10	10	5	300	225	180
DOT-105A300W	[a, f, i] 10	[a, f, i] 10	[a, f, i] 10	[a, i, k] 5	300	[g, n] 225	[n] 180
DOT-105A400	[a] 10	[a] 10	[a] 10	[a] 5	400	300	240
DOT-105A400W	[a] 10	[a] 10	[a] 10	[a] 5	400	[m] 300	240
DOT-105A500	[a] 10	[a] 10	[a] 10	[a] 5	500	[h] 375	300
DOT-105A500W	[a, f] 10	[a, f] 10	[a, f] 10	[a, k] 5	500	[h] 375	300
DOT-105A600	[a] 10	[a] 10	[a] 10	[a] 5	600	450	360
DOT-105A600W	[a] 10	[a] 10	[a] 10	[a] 5	600	[m] 450	360
DOT-109A100ALW	10	10	10	5	100	75	60
DOT-109A200ALW	10	10	10	5	200	150	120
DOT-109A300ALW	10	10	10	5	300	225	180
DOT-109A300W	10	10	0	5	300	225	180
DOT-111A60ALW1	10	10	10	10	60	35	28
DOT-111A60ALW2	[d] 5	3	1	(e)	60	35	28
DOT-111A60F1	10	10	10	10	60	35	28
DOT-111A60W1		[p] 20	10	10	60	35	28
DOT-111A60W2 [q]	5	3	1	2	60	35	28
DOT-111A60W5	5	3	1	None	60		
DOT-111A60W7	5	3	1	(e)	60	35	28
DOT-111A100ALW1	10	10	10	10	100	75	60
DOT-111A100ALW2	5	3	1	(e)	100	75	60
DOT-111A100F1		10	10	10	100	75	60
DOT-111A100W1		[p] 20	10	10	100	75	60
DOT-111A100F2 [q]	5	3	1	2	100	75	60
DOT-111A100W2 [q]	5	3	1	2	100	75	60
DOT-111A100W3		[p] 20	10	10	100	75	60
DOT-111A100W4	10	10	10	5	100	75	60
DOT-111A100W5	[f] 5	[f] 3	[f] 1	None	100		
DOT-111A100W6	[d] 5	3	1	(e)	100	75	60
DOT-112A200W	10	10	10	5	200	150	120
DOT-112A340W	10	10	10	5	340	[n] 255	[n] 204
DOT-112A400F		10	10	5	400	300	240
DOT-112A400W	10	10	10	5	400	[n] 300	[n] 240
DOT-112A500W	10	10	10	5	500	[h] 375	300
DOT-113A60W	(s)	(s)	(s)	5	(s)	30	24
DOT-113A175W	(s)	(s)	(s)	5	(s)	115	95
DOT-114A340W	10	10	10	5	340	[n] 255	[n] 204
DOT-114A400W	10	10	10	5	400	[n] 300	[n] 240
DOT-115A60ALW	10	10	10	5	60	35	28
DOT-115A60W1	10	10	10	5	60	35	28
DOT-115A60W6	10	10	10	5	60	35	28
EMERG. USG-A, B, and C		10	10	10	60	25	
ARA-III			0	10	60	[c] 25	20
ARA-III acid (unlined)			1	None	60		
ARA-III (rubber lined)			(f)	None	60		
ARA-IV			10	10	60	[c] 25	20
ARA-IV-A			10	5	100	35	28
ARA-V			[a] 10	[a] 5	300	[g] 225	180

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[a] Tanks and safety relief valves in chlorine service must be retested every 2 years at any time during the calendar month the retest falls due. See § 173.314(c) Note 12.

[b] Specifications 103CW and 103A-ALW cars built prior to Aug. 31, 1956, equipped with safety relief valves set to discharge at 45 p.s.i., may be continued in service. Such valves may be set to discharge at 35 p.s.i. by installing a spring suitable for the lower pressure. Specifications 103A-ALW and 103CW tank cars used to transport anhydrous hydrazine or hydrazine solutions may have a safety relief valve having a start to discharge pressure of 45 p.s.i. with a tolerance of plus or minus 3 p.s.i. and a vapor tight pressure of 36 p.s.i.

[c] See praragraph (a)(2) Note 4 or this section.

[d] A commodity for which a tank is approved may be used for filling tank and dome when retesting tanks in service not over 10 years.

[e] Safety relief valve retest period is same as tank retest period.

[f] Nickel clad tanks in bromine service and any glass, rubber, or lead lined tank need not be periodically retested, but the interior heater systems and safety relief valves must be retested at the prescribed interval. See also paragraph (c)(9) of this section.

[g] If safety relief valves are used in combination with breaking pins designed to break at 225 psi, the safety relief valves must be retested and must start to discharge at 213 psi plus or minus 3 percent.

[h] If safety relief valves are used in combination with breaking pins designed to break at 375 psi, the safety relief valves must be retested and must start to discharge at 360 psi plus or minus 3 percent.

[i] Tanks and safety relief devices in hydrocyanic acid service must be retested and inspected by a written procedure filed with and approved by the Bureau of Explosives.

[j] When the retest interval requirement changes due to the age of the tank, the new retest interval specified is effective from the last retest date.

[k] Safety relief valves in bromine service must be retested every 2 years.

[m] When a safety relief valve is used in combination with a breaking pin device, the breaking pin device shall be designed to fail at a pressure of 75 percent of the tank test pressure and safety relief valve shall be set for a start-to-discharge pressure of 71 percent of the tank test pressure.

[n] If the alternate safety relief valve start-to-discharge pressure setting is used, the retest pressures of the safety relief valves must be in accordance with the provisions of § 179.102-11 of this chapter.

[p] Retest period for interior heater systems on cars so equipped is 10 years.

[q] When tanks are converted to class DOT-111AW2 or F2 from existing pressure type tanks, the retest interval must be computed from the date converted instead of the date built. The conversion date must be stenciled on the tank below the built date.

[r] When tanks are converted to class DOT-103AW from existing DOT-103W or 103BW tanks, the retest interval at conversion must be computed the same as 10-year-old equipment.

[s] Tanks complying with this specification need not be periodically retested.

(5) Frangible discs or fusible plugs must be removed from the tank and visually inspected.

(6) Tanks must be retested as specified in Retest Table 2 of this paragraph before return to service after repairs involving weilding or heat treatment.

(7) The month and year of test, followed by a "V" if visually inspected as described in subparagraph (d)(9) of this section, must be plainly and permanently stamped into the metal of one head or chime of each tank passing test; for example, 1-60 for January 1960. On DOT 107A**** tanks, the date must be

stamped into the metal of the marked end; except that if all tanks mounted on a car have been tested, the date may be stamped into the metal of a plate permanently applied to the bulkhead on the "A" end of the car. Date of previous tests and all prescribed markings must be kept legible.

(8) Retests of tanks and safety relief devices must be reported by party making tests to owner of tank. Reports must show registered identifying mark and serial number, pressure to which tested, date and place of test, and by whom tested. Reports of latest retest must be retained by owner until the next retest has been accomplished and recorded.

(9) Tanks of DOT 106A and DOT 110A-W (§§ 179.300, 179.301, 179.302 of this subchapter) specifications used exclusively for transporting fluorinated hydrocarbons and mixtures thereof which are free from corroding components may be given a periodic complete internal and external visual inspection in lieu of the periodic hydrostatic retest. Visual inspections shall be made only by competent persons. Acceptance or rejection of tanks must be based upon the methods used for cylinders in CGA Pamphlet C-6, and the results must be recorded on a suitable data sheet, the completed copies of which must be kept by the owner as a permanent record. The points to be recorded and checked on these data sheets are: Date of inspection (month and year followed by a "V" to indicate visual inspection); DOT specification number; tank identification (registered symbol and serial number, date of manufacture and ownership symbol); type of protective coating (painted, etc., and statement as to need of refinishing or recoating); conditions checked (leakage, corrosion, gouges, dents or digs, broken or damaged chime or protective ring, fire, fire damage, internal condition); disposition of tank (returned to service, returned to manufacturer for repair, or scrapped).

RETEST TABLE 2

Specification	Retest interval—years		Retest pressure—psi		Safety relief valve pressure—psi	
	Tank	Safety relief devices [e]	Tank hydrostatic expansion [d]	Tank air test	Start-to-discharge	Vapor tight
DOT 27	5	2	500	100	375	300
106A500	5	2	500	100	375	300
106A500X	5	2	500	100	375	300
106A800	5	2	800	100	600	480
106A800X	5	2	800	100	600	480
106A800NCI	5	2	800	100	600	480
107A****	[c] 5	[a] 2	([b])	None	None	None
110A500-W	5	2	500	100	375	300
110A800-W	5	2	800	100	600	480
110A1000-W	5	2	1,000	100	750	600
BE-27	5	2	500	100	375	300

[a] If DOT 107A**** tanks are used for transportation of flammable gases, one frangible disc from each car must be burst at the interval prescribed. The sample disc must burst at a pressure not exceeding the marked test pressure of the tank and not less than 9/10 of the marked test pressure. If the sample disc does not burst within the prescribed limits, all discs on the car must be replaced.

[b] The hydrostatic expansion test pressure must at least equal the marked test pressure.

[c] DOT 107A**** tanks used exclusively in helium gas service shall be exempt from the quinquennial hydrostatic retest requirement until Dec. 31, 1971. This exemption shall be applicable to tank cars presently operated in helium service by the U.S. Bureau of Mines and to additional cars that are placed in helium service by the Bureau of Mines.

[d] See § 173.31(d)(9).

[e] Safety relief valves of the spring-loaded type on tanks used exclusively for fluorinated hydrocarbons and mixtures thereof which are free from corroding components may be retested every 5 years.

(e) *Tank car tanks subjected to the action of fire.* (1) Tank car tanks of other than classes DOT 106A, 107A or 110A bearing evidence of damage to the metal by fire must be withdrawn from transportation service except that if the damage to the tank is local only or confined to not more than 25 percent of the tank surface, the damaged material may be replaced. See paragraph (f)(1) of this section for the procedure for handling tank car tanks with more than 25 percent of the tank surface damaged.

(2) Tank car tanks of classes DOT 106A, 107A or 110A bearing evidence of damage to the metal by fire must be withdrawn from transportation service until they have been inspected inside and outside to determine that no reduction in wall thickness has resulted, and have been heat-treated and retested. These operations must be carried out, supervised and reported as prescribed by the specifications for original heat treatment and test.

(f) *Repairs or alterations.* (1) For procedure to be followed in making repairs or alterations to all tank car tanks and securing approval therefor, see Appendix R, Association of American Railroads Specifications for Tank Cars.

(2) After alterations of tank cars or equipment therefor from original design, a certificate of compliance with the respective specification must be furnished to the car owner, to the Bureau of Explosives, and to the Secretary, Mechanical Division, Association of American Railroads.

[29 FR 18671, Dec. 29, 1964, as amended by Order 66, 30 FR 5743, Apr. 23, 1965; Order 67, 30 FR 7420, June 5, 1965; Order 71, 31 FR 9068, July 1, 1966; Amdt. 173-18, 35 FR 1109, Jan. 28, 1970; Amdt. 173-25, 35 FR 7120, May 6, 1970; Amdt.173-35, 35 FR 14402, Sept. 12, 1970; Amdt. 173-40, 36 FR 64, Jan. 5, 1971; Amdt. 173-62, 37 FR 9221, May 6, 1972; Amdt. 173-62, 37 FR 10594, May 24, 1972; Amdt. 173-80, 39 FR 15034, Apr. 30, 1974; Amdt. 173-94, 41 FR 16064, Apr. 15, 1976; Amdt. 173-98, 41 FR 21476, May 26, 1976]

§ 173.32 Qualification maintenance, and use of portable tanks.

(a) Except as otherwise provided in this section, every portable tank container used for the transportation of dangerous articles shall fulfill the requirements of the specification and regulations for the transportation of the particular commodity. A manufacturer's data report of the portable tank container shall be procured and retained in the files of the owner during the time that such portable tank container is used for such service.

(1) When a portable tank container is used as a cargo tank container, it shall comply with all the requirements prescribed for cargo tank containers. (See § 173.33.)

(2) No portable tank offered for transportation by water may exceed a gross weight of 55,000 pounds.

(3) Each uninsulated portable tank used for the transportation of compressed gases, as defined in § 173.300, must have an exterior surface finish complying with § 178.245-1(c) of this subchapter.

(4) No portable tank or specification 106A or 110A tank containing a hazardous material may be offered for transportation aboard a passenger vessel unless—

(i) The vessel is operating under a change to its character of vessel certification as defined in § 171.8 of this subchapter; and

(ii) The material is permitted to be transported aboard a passenger vessel in § 172.101 of this subchapter.

(b) Any portable tank container constructed prior to May 15, 1950, complying with the requirements of either the A. S. M. E. Code for Unfired Pressure Vessels, 1946 Edition, or the A. P. I.-A. S. M. E. Code for Unfired Pressure Vessels, 1943 Edition, may be used for the transportation of liquefied compressed gas, provided it fulfills all the requirements of this part and specifications for the particular gas or gases to be transported therein and shall be marked "ICC Specification 51X" on the plate required by the specification, except as modified by any or all of the following:

(1) Tanks designed and constructed in accordance with Pars. U-68, U-69, or U-201 of the A. S. M. E. Code may be used. Tanks designed and constructed in accordance with Pars. U-68 or U-69 may be re-rated at a working pressure 25 percent in excess of the design pressure for which the tank was originally constructed. If advantage is taken of the increased rating, the re-rated pressure shall be marked on the plate as follows:

Re-rated working pressure __ psig.

NOTE 1: For purposes of setting safety relief valves, pressure control valves and establishing retest pressure, and for purposes of establishing maximum and minimum design pressures, the re-rated working pressure shall be considered as the equivalent of the design pressure as defined in the specification.

(2) Loading and unloading accessories, valves, piping, fittings, safety and gauging devices, do not have to comply with the requirements for the particular location on the tank.

(3) Tanks having capacities of between 750 pounds and 1,000 pounds of water shall be considered as portable tank containers for the purposes of this part. In lieu of using safety relief valves on such containers they may be equipped with fusible plugs only when the container is filled by weight. Size, number, and location, as well as character and physical properties of fusible plugs shall be approved by the Bureau of Explosives. These containers shall be marked "ICC Specification 51S".

(4) Specification requirements as to stress-relieving and radiographing are waived.

(c) Any portable tank container of ICC Specification 50[1] fulfilling the requirements of that specification may be continued in service for transportation of a liquefied petroleum gas if it is retested every five years in accordance with the requirements of paragraph (e) (3), (4), and (5) of this section: *Provided*, That it is in and can be maintained in safe operating condition for the transportation of that gas. In this case the container may retain its original markings.

(d) *Use of specification 52 and 53 tanks.* Continued use of an existing portable tank constructed to specification 52 or 53 is authorized only for a tank constructed before June 1, 1972.

(e) *Retest.* Each portable tank used for the transportation of a hazardous material must be successfully retested before further use in accordance with the following:

(1) *Schedule.* Each tank must be retested as prescribed in subparagraph (2) of this paragraph, in accordance with the following schedule:

(i) Specification 51 (§ 178.245 of this subchapter): at least once every 5 years.

(ii) Specifications 52, 53, 56, and 57 (§§ 178.246, 178.247, 178.251, 178.252, 178.253 of this subchapter): at least once every 2 years.

(iii) Specification 60 (§ 178.255 of this subchapter): at the end of the first 4-year period after the original test; at least once every 2 years thereafter up to a total of 12 years of service; and at least once annually thereafter. Retesting is not required on a rubber-lined tank except before each relining.

(iv) Any other portable tank authorized by this part for transportation of compressed gases (including liquefied compressed gases): at least once every 5 years.

(2) *Test procedures.* Unless otherwise specified, each tank must be retested in accordance with the following test procedures:

(i) *Pressure.* Each specification 60 tank must be retested in accordance with § 178.255-12 of this subchapter. A specification 57 tank must be retested in accordance with § 178.253-5(b) of this subchapter. Any other tank must be tested by a minimum pressure (air or hydrostatic) of at least 2 pounds per square inch gage or at least one and one-half times the design pressure (maximum allowable working pressure, or re-rated pressure) of the tank, whichever is greater. During each air pressure test, the entire surface of all joints under pressure must be coated with or immersed in a solution of soap and water, heavy oil, or other material suitable for the purpose of detecting leaks. The pressure must be held for a period of time sufficiently long to assure detection of leaks. During the air or hydrostatic test, relief devices may be removed, but all the closure fittings must be in place and the relief device openings plugged. Lagging need not be removed from a lagged tank if it is possible to maintain the required test pressure at constant temperature with the tank disconnected from the source of pressure.

(ii) *Visual.* While under the test pressure, the tank must be visually inspected for leakage, defective fittings and welds, defective closures, significant dents, and other defects or abnormalities which indicate a potential or actual weakness that could render the tank unsafe for the transportation of a hazardous material.

(iii) *Rejection criteria.* A tank fails to meet the requirements of the pressure test if, during the test, there is permanent distortion of the tank exceeding that permitted by the applicable specification, if there is any leakage, or if any deficiencies described in subdivision (ii) of this subparagraph are found. Any tank that fails must be rejected and may not be used again for the transportation of a hazardous material unless the tank is adequately repaired and thereafter a successful test is conducted in accordance with the requirements of this paragraph.

(3) *Marking.* The date of the most recent periodic retest must be marked on the tank, on or near the metal certification plate. Marking must be in accordance with § 173.24.

(4) *Records.* The owner of the tank or his authorized agent must retain a written record indicating the date and results of all required tests and the name and address of the tester, until the next retest has been satisfactorily completed and recorded.

(f) *Special tanks.* Each portable tank authorized by this Part including each special permit tank (other than a tank covered by paragraph (e)(1)(iv) of this section) which is not in compliance with one of the specifications listed in paragraph (e) of this section, must be tested in accordance with the procedures prescribed in paragraph (e) of this section for the type of portable tank most nearly equivalent in design and usage. A tank constructed in accordance with paragraph U-68 or U-69 of previous editions of the ASME Code, and which has not been re-rated, must be hydrostatically retested at twice the design pressure instead of the one and one-half times prescribed in paragraph (e)(2)(i) of this section.

(g) *Deteriorated tanks.* Without regard to any other retest requirements, any tank that shows evidence at any time of bad dents, corroded areas, leakage, or other conditions that indicate weakness which could render the tank unsafe for the transportation of a hazardous material, must be retested as prescribed in paragraph (e)(2) of this section.

(h) *Damaged tanks.* Any tank that has been in an accident and that has been damaged to an extent that may adversely affect its product retention capability, must be retested as prescribed in paragraph (e)(2) of this section.

(i) *Unused tanks.* Any tank that has not been used to transport a hazardous material for a period of 1 year or more may not be returned to hazardous materials service until it has been tested successfully in accordance with the requirements of paragraph (e)(2) of this section.

(j) The Department may require the testing under prescribed conditions of any tank when probable cause appears for suspecting that such tank is in unsafe operating condition.

(k) The repair of tanks is authorized, provided such repairs are made under requirements prescribed in the "Code" for the original design and construction.

(l) In addition to any other provisions of the specification, no tank shall be repaired, or remodeled, as to cause leakage or cracks or likelihood of leakage or cracks, by areas of stress concentration due to shrinkage of cooling metal in welding operations, sharp fillets, reversal of stresses, or otherwise.

(2) No field welding shall be done except to non-pressure parts.

(l) The bursting strength of any piping and fittings shall be not less than four times the design pressure of the tank, and not less than four times that pressure to which, in any instance, it may be subjected in service, by the action of a pump or other device (not including safety relief valves) the action of which may be to subject certain portions of the tank piping to pressures greater than the design pressure of the tank.

(1) Welded pipe joints shall be used wherever possible. Joints in copper tubing where permitted shall be of the brazed type or of any equally strong metal union type. Melting point of brazing material must be not less than 1,000° F. Such joints shall in any event be of such a character as not to decrease the strength of the tubing, as by the cutting of threads.

(2) Fittings shall be extra heavy. Non-malleable metals shall not be employed in the construction of valves or fittings.

(3) Suitable provision shall be made in every case to allow for expansion, contraction, jarring and vibration of all

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[1] Use of existing portable tanks authorized, but new construction not authorized.

pipe. Slip joints shall not be used for this purpose.

(4) Piping and fittings shall be grouped in the smallest practicable space and shall be protected from damage as required by the specification.

(5) All piping, valves and fittings on every tank shall be leakage tested with gas or air after installation and proved tight at not less than the design pressure of the tank on which they are used. In the event of replacement, all such piping, valves, or fittings so replaced shall be tested in accordance with the requirements of this section before the tank is returned to transportation service. The requirements of this section shall apply with equal force to all hose used on such tanks, except that such hose may be so tested either before or after installation on the tank.

(m) All materials of construction used in portable tank containers and their appurtenances shall not be subject to destructive attack by the contents of the tank.

(1) All parts of tanks and appurtenances for anhydrous ammonia shall be steel. No copper, silver, zinc, nor their alloys shall be permitted. Brazed joints shall not be permitted.

(n) Each outlet of portable tanks used for the transportation of liquefied compressed gases, except carbon dioxide, shall be provided with a suitable automatic excess-flow valve. These valves shall be located inside the tank or at a point outside the tank where the line enters or leaves the tank. The valve seat shall be located inside the tank or shall be located within a welded flange or its companion flange, or within a nozzle or within a coupling. The installation shall be made in such a manner as reasonably to assure that any undue strain which causes failure requiring functioning of the valve shall cause failure in such a manner that it will not impair the operation of the valve.

Exception. Safety device connections and liquid level gauging devices which are so constructed that the outward flow of tank contents shall not exceed that passed by a No. 54 drill size opening are not required to be equipped with excess-flow valves.

(1) Excess-flow valves shall close automatically at the rated flows of gas or liquid as specified by the valve manufacturer. The connections or lines on each side of the excess-flow valve, including valves, fittings, etc., shall have a greater capacity than the rated flow of the excess-flow valve.

(2) Excess-flow valves may be designed with a by-pass not to exceed a No. 60 drill size opening, to allow equalization of pressures.

(3) Filling and discharge lines shall be provided with manually operated shut-off valves located as close to the tank as is practicable. The use of so-called "Stop-Check" valves to satisfy with one valve the requirements of this subparagraph and of paragraph (n) of this section, is forbidden.

(o) Each tank for carbon dioxide and nitrous oxide shall be lagged with a suitable insulation material of such thickness that the overall thermal conductance is not more than 0.08 Btu per square foot per degree F. differential in temperature per hour. The conductance shall be determined at 60° F. Insulation material used on tanks for nitrous oxide shall be noncombustible.

(p) A refrigerating and/or heating coil or coils may be installed in tanks for carbon dioxide and nitrous oxide. Such coils must be tested externally to at least the same pressure as the test pressure of the tank. The coils must also be tested internally to at least twice the working pressure of the heating or refrigerating system to be used but in no case less than the test pressure of the tank. Such coils shall be securely anchored. The refrigerant or heating medium to be circulated through the coil or coils must be such as to cause no adverse chemical reaction with the tank or tank contents in case of leakage.

[29 F.R. 18671, Dec. 29, 1964, as amended by Amdt. 173–15, 34 F.R. 17523, Oct. 30, 1969; Amdt. 173–60, 37 FR 2885, Feb. 9, 1972; Amdt. 173–81, 39 FR 17315, May 15, 1974; Amdt. 173–94, 41 FR 16064, Apr. 15, 1976]

§ 173.33 Qualification, maintenance, and use of cargo tanks.

(a) General: Unless otherwise provided in this part every cargo tank (or compartment) used for the transportation of dangerous articles must be an authorized container. Such authorized container shall comply with requirements as set forth in this section in addition to those regulations applicable for the transportation of the particular commodity.

(1) A cargo tank is authorized for shipment of a hazardous material by water, when in conformance with the requirements of Part 176 of this subchapter and the following limitations:

(i) On carfloats or trailerships if the material is permitted aboard a cargo vessel by § 172.101 of this subchapter, or

(ii) On passenger ferry vessels or railroad car ferry vessels if the material is permitted aboard a passenger vessel by § 172.101 of this subchapter.

(b) Container authorization: Cargo tank qualification as an authorized container includes compliance with applicable specifications MC 300, MC 301, MC 302, MC 303, MC 304, MC 305, MC 306, MC 307, MC 310, MC 311, MC 312, MC 330, or MC 331 plus current compliance with the retest provisions as required in § 177.824 of this subchapter and marked accordingly.

(1) Cargo tanks constructed on or after December 1, 1967 must be constructed in compliance with specifications MC 306, MC 307, MC 312 or MC 331 (§ 178.341, § 178.342, § 178.343 or § 178.337 of this subchapter).

(2) Continued use of existing cargo tanks constructed to Specifications MC 300, MC 302, MC 303, MC 304, MC 305, MC 310, and MC 311 is authorized but new construction may not commence after September 1, 1967.

(3) Continued use of existing cargo tanks constructed to specification MC 301 is authorized but new construction is not permitted after June 11, 1961.

(4) Continued use of existing cargo tanks constructed to specification MC 330 is authorized but new construction is not permitted after May 14, 1967.

(c) *Special permit authorization.* Each cargo tank which does not meet one or more of the authorized specifications as shown in paragraph (b) of this section may continue in or be placed in service only under the terms specifically prescribed by the Hazardous Materials Regulations Board. In the event such special permit authorization is desired, the carrier shall furnish those details concerning the design and construction of the tank motor vehicle and the cargo tank as seem necessary for the determination of its ability to safely transport the proposed commodity.

(d) Multipurpose cargo tanks: Multipurpose cargo tanks which have more than one compartment, each of which meets the requirements qualifying them as different container types, are authorized for use for applicable commodities.

(1) Multipurpose tanks which can be physically altered to qualify as containers to accommodate various commodities subject to the regulations in this part or commodities not subject to the regulation in this part are authorized if:

(i) All applicable provisions of the regulations in this part which are required to qualify the container as acceptable for the commodity being transported are met.

(ii) The required physical alterations to convert from one container type to another are clearly indicated on or near the certification plate.

(e) A Specification MC 330 or MC 331 (§ 178.337 of this subchapter) cargo tank must not be used unless it has successfully met the following requirements, as applicable:

(1) Each cargo tank must be tested and inspected at least once every 5 years in accordance with paragraphs (e) (2), (3), (4), (10), (11), and (12) of this section. A cargo tank that has been in service more than 5 years since the last test or retest, must be tested and inspected according to the provision of this paragraph by October 1, 1975. The tank and each safety relief valve of any cargo tank used for the transportation of chlorine must be retested at least once every 2 years.

(2) The tank less any fittings must be subjected to a hydrostatic or pneumatic pressure of one and one-half times the design pressure (maximum allowable working pressure or rerated pressure) of the tank. For pneumatic testing, the test procedure specified in § 177.824(d) (3) of this subchapter shall be followed. When a pneumatic test is performed, suitable safeguards should be provided to protect employees and other persons should a failure occur.

(3) The tank shall be inspected for corroded areas, bad dents, or other conditions, including leakage under test pressure, which indicate weakness that might render the tank unsafe for transportation service, and shall be rejected if evidence of any such unsafe condition is discovered.

(4) The tank lagging, if any, and its jacket need not be removed from lagged tanks unless it is found to be impossible to reach test pressure and maintain a condition of pressure equilibrium after test pressure is reached during tank retesting.

(5) Every cargo tank which shall have been authorized by the Department to transport dangerous articles under the provisions of paragraph (c) of this section shall be tested under requirements specifically set forth in the terms of such authorization.

(6) Without regard to any other retest requirement, any tank that shows evidence at any time of bad dents, corroded areas, leakage, or other conditions that indicate weakness which might render the tank unsafe for transportation service, shall be retested as prescribed by subparagraphs (2), (3), and (4) of this paragraph.

(7) Any tank which has been in an accident and which has been damaged to an extent likely to cause it to be in unsafe condition or to an extent where such a condition is suspected, shall be tested as prescribed by subparagraphs (2), (3), and (4) of this paragraph.

(8) Any tank which has been out of transporation service for a period of 1 year or more shall not be returned to or placed in such service until it shall have successfully fulfilled the testing requirements prescribed by subparagraphs (2), (3), and (4) of this paragraph.

(9) The Department may require the testing under prescribed conditions of any tank when probable cause appears for suspecting that such tank is in unsafe condition.

(10) *Ammonia tanks*. Each MC 330 and MC 331 cargo tank used for anhydrous ammonia which is constructed of quenched and tempered steel or constructed of other than quenched and tempered steel but without post-weld heat treatment, must be internally inspected by the wet fluorescent magnetic particle method immediately prior to and in conjunction with the performance of any hydrostatic retest prescribed in this section. The wet fluorescent magnetic particle inspection must be in accordance with Section V of the ASME Code and CGA Technical Bulletin TB-2 titled, "Guidelines for Inspection and Repair of MC 330 and MC 331 Cargo Tanks," 1975 edition. This paragraph does not apply to cargo tanks that do not have manholes.

(11) *Repairs*. All cracks and other defects found must be repaired in accordance with the repair procedures described in CGA Technical Bulletin TB-2, titled "Guidelines for Inspection and Repair of MC 330 and MC 331 Cargo Tanks," 1975 edition and section VIII of the edition of the ASME Code under which the tank was built. Each tank having cracks and defects requiring welded repairs must meet all of the requirements of § 178.337-16 of this subchapter except that post-weld heat treatment after minor weld repairs is not required. When any repairs are made, including those by grinding, the tank must again be examined by the wet fluorescent magnetic particle method after hydrotest to assure that all defects have been removed.

(12) *Reports required*. Each motor carrier operating a MC 330 or MC 331 cargo tank subject to subparagraph (e)(10) of this section shall make a written report, in duplicate, concerning the cargo tank following the required inspection or test. This reporting requirement does not apply to a motor carrier leasing a cargo tank for less than 30 days if the lessor has submitted the reports required by this section. The report for each cargo tank must contain the following:

(i) Carrier's name, address of principal office, and telephone number;

(ii) Complete name plate data required by specification MC 330 or MC 331, including data required by ASME Code;

(iii) Carrier's equipment number, which shall be the same as reported in accordance with § 177.824 (f)(1)(iii)(a) of this subchapter;

(iv) A statement indicating whether or not the tank was stress relieved after fabrication;

(v) Name and address of the person performing the test and date of test;

(vi) A statement of the nature and severity of defects found, if any. In particular, information must be furnished to indicate the location of defects detected, such as in a weld, a heat-affected zone, the liquid phase, the vapor phase, or the head-to-shell seam. If no defect or damage was discovered, that fact must be reported;

(vii) A statement indicating the methods employed to make repairs, who made the repairs, and the date they were completed. Also, a statement of whether or not the tank was stress relieved after repairs and, if so, whether full or local stress relieving was performed;

(viii) A statement of the disposition of cargo tank, such as "tank scrapped," or "returned to service;" and

(ix) A statement of whether or not the cargo tank is used for transportation of anhydrous ammonia, liquefied petroleum gas or any other commodity which shall be identified. Also, if the cargo tank was used for anhydrous ammonia, a statement indicating whether each shipment of ammonia was certified by its shipper as containing 0.2 percent water by weight.

(13) *Filing of reports*. The report required by this section must be filed with the Director of the Bureau of Motor Carrier Safety, Federal Highway Administration, Department of Transportation, Washington, D.C. 20590, Attention: Regulations Division. A copy of the report must be retained by the carrier at its principal place of business during the period the tank is in the carrier's service and for 1 year thereafter. However, upon a written request to, and with the approval of, the Director, Regional Motor Carrier Safety office, for the region in which a motor carrier has his principal place of business, the carrier may maintain the reports at a regional or terminal office.

(14) *Supplying reports*. Each carrier offering a MC 330 or MC 331 cargo tank for sale or lease must make available for inspection a copy of any reports made under this paragraph to each prospective purchaser or lessee. Copies of such reports must be provided for the purchaser or lessee if the cargo tank is leased for more than 30 days.

(15) *Record of inspections*. Each carrier shall prepare a record of inspections required by paragraphs (e)(10) and (e)(11) of this section. The inspection record shall be signed by the person conducting the inspections, and retained with the carrier's file copy of the report submitted under paragraph (e)(12) of this section. The inspection record must identify by cargo tank manufacturer's serial number each cargo tank inspected and also indicate the name of the inspecting agency and person, the nature of any defect or damage discovered, and must state by what method the defect or damage was discovered. If no defect or damage was discovered upon inspection this fact must also be reported.

(i) The reports required of a carrier by paragraphs (e)(12) and (13) of this section may be combined in a single report.

(f) The repair of tanks is authorized, provided such repairs are made under requirements prescribed in the "Code" for its original design and construction.

(1) In addition to any other provisions of the specification, no tank shall be repaired, or remodeled, as to cause leakage or cracks or likelihood of leakage or cracks, by areas of stress concentration due to shrinkage of cooling metal in welding operations, sharp fillets, reversal of stresses, or otherwise.

(2) No field welding shall be done except to nonpressure parts.

(g) On any tank used for a compressed gas except chlorine, the bursting pressure of all piping, pipe fittings, hose and other pressure parts except pump seals and safety relief devices must be at least 4 times the design pressure of the tank. In addition, the bursting pressure may not be less than 4 times any higher pressure to which each pipe, pipe fitting, hose and other pressure part may be subjected in service by the action of a pump or other device. For tanks used in transporting chlorine, see subparagraphs (8) through (10) of this paragraph.

(1) Welded pipe joints must be used wherever possible. Where copper tubing is permitted, joints must be brazed or be of equally strong metal union type. The melting point of brazing material must be no lower than 1000°F. The method of joining tubing must not decrease its strength, such as by the cutting of threads. Screwed fittings must be at least extra heavy. Nonmalleable metals may not be used in the construction of any valve or fitting.

(2) Each hose coupling must be designed for a pressure at least 20 percent in excess of the hose design pressure and so there will be no leakage when connected.

(3) Provision must be made to prevent damage to piping due to thermal expansion and contraction, jarring, and vibration. Slip joints may not be used for this purpose.

(4) Piping and fittings must be grouped in the smallest practicable space and be protected from damage as required by the specification.

(5) All piping, valves, and fittings on every tank motor vehicle shall be proved free from leaks at not less than the design pressure for the tank. This condition will be considered to have been met when such piping, valves, and fittings have been tested for leakage with gas or air after installation and proved tight at not less than the design pressure marked on the cargo tank with which they are used. In the event of replacement, all such piping, valves, or fittings so replaced shall be tested in accordance with the requirements of this section before the tank is returned to transportation service. The requirements of this section shall apply with equal force to all hose used on such tanks, except that such hose may be so tested either before or after installation on the tank.

(6) Liquid pumps or gas compressors, wherever used, must be of suitable design, adequately protected against breakage by collisions, and kept in good condition. They may be driven by motor vehicle power takeoff or other mechanical, electrical, or hydraulic means. Unless they are of the centrifugal type, they shall be equipped with suitable pressure actuated by-pass valves permitting flow from discharge to suction or to the tank.

(7) Each tank used for the shipment of carbon dioxide or nitrous oxide shall be provided with a suitable pressure gauge. A shutoff valve must be installed between the pressure gauge and the tank. This gauge need be used only during the filling operation.

(8) *Chlorine cargo tanks.* No piping, hose, or other means of loading or unloading may be attached to any valve of a cargo tank containing chlorine except at the time of loading or unloading. No hose, piping, or tubing used for loading or unloading may be mounted or carried on the motor vehicle. Except at the time of loading or unloading, the pipe connection of each angle valve must be closed with a screw plug which is chained or otherwise fastened to prevent misplacement.

(9) Chlorine cargo tank angle valves must be tested before installation to be leak free at not less than 225 p.s.i.g. using dry air or inert gas. The angle valves must also be tested as above once every five loadings or once a week whichever occurs first. At each loading, tanks must be inspected and the angle valves and gasketed joints must be examined and tested at a pressure of not less than 50 p.s.i.g. to determine that they are not leaking and are in proper condition for transportation. Leaks which are detected must be corrected before the cargo tank motor vehicle is shipped.

(10) Liquid chlorine pumps shall not be installed on cargo tank motor vehicles used for the shipment of chlorine.

(h) All materials of construction used in cargo tanks and their appurtenances shall not be subject to destructive attack by the contents of the tank.

(1) All parts of tanks and appurtenances for anhydrous ammonia shall be steel. No copper, silver, zinc, nor their alloys shall be permitted. Brazed joints shall not be permitted.

(i) Each outlet of cargo tanks used for the transportation of liquefied compressed gases, except carbon dioxide, shall be provided with an approved suitable automatic excess-flow valve or in lieu thereof may be fitted with an approved automatic quick-closing internal valve. These valves shall be located inside the tank or at a point outside the tank where the line enters or leaves the **tank. The valve seat shall be located inside the tank or shall be located within a welded flange or its companion flange, or within a nozzle, or within a coupling. The installation shall be made in such a manner as reasonably to assure that any undue strain which causes failure requir**ing functioning of the valve shall cause **failure in such a manner that it will not** impair the operation of the valve.

EXCEPTION: Any liquid level gauging device which is constructed so that the outward flow of tank contents does not exceed that passed by a 0.060-inch diameter opening, or any safety device connection, is not required to be equipped with an excess-flow valve.

(1) Each excess-flow valve must close automatically at the rated flow of gas or liquid as specified by the valve manufacturer. The flow rating of the piping, fittings, valves, and hose on each side of the excess-flow valve must be greater than that of the excess-flow valve. If branching or any other restriction is incorporated in the system so that the flow rating is less than that of the excess-flow valve at the tank, additional excess-flow valves must be located where the flow rates are reduced.

(2) An excess-flow valve may be designed with a bypass, not to exceed 0.040-inch diameter opening, to allow equalization of pressures.

(3) Each filling and discharge line must be provided with a manual shut-off valve located as close to the tank as practicable. However, when an internal shut-off valve that closes automatically is used, a manual shut-off valve must be located in the line ahead of the hose connection. The use of a so-called "stop-check" or excess flow valve to satisfy the requirements of this rule and of paragraph (1) of this section with one valve is prohibited except as provided in § 178.337-11(c) of this subchapter.

(4) Angle valves and excess-flow valves on chlorine tank motor vehicles manufactured on or before December 31, 1974, must conform to the standards of The Chlorine Institute, Inc., as follows:

(i) An angle valve must conform to either Dwg. 104-4 dated May 5, 1958, or Dwg. 104-5, dated September 1, 1972.

(ii) An excess-flow valve conforming to either Dwg. 101-4 dated May 16, 1969, or Dwg. 101-6, dated September 1, 1973, must be installed under each liquid angle valve. An excess-flow valve conforming to either Dwg. 106-3, dated May 16, 1969, or Dwg. 106-5, dated September 1, 1973, must be installed under each gas angle valve.

(5) Angle valves and excess-flow valves on chlorine tank motor vehicles manufactured on or after January 1, 1975, must conform to the standards of The Chlorine Institute, Inc., as follows:

(i) An angle valve must conform to Dwg. 104-5, dated September 1, 1972;

(ii) An excess-flow valve conforming with Dwg. 101-6, dated September 1, 1973, must be installed under each liquid angle valve. An excess-flow valve conforming to Dwg. 106-5, dated September 1, 1973, must be installed under each gas angle valve.

(j) Each tank for chlorine, carbon dioxide, and nitrous oxide must be insulated with a suitable insulation material of such thickness that the overall thermal conductance is not more than 0.08 B.t.u. per square foot per degree F. differential in temperature per hour. The conductance must be determined at 60° F. Insulation material used on tanks for nitrous oxide must be noncombustible. Insulation material used on tanks for chlorine must be corkboard or self-extinguishing polyurethane foam with minimum thickness of 4 inches.

(k) A refrigerating and/or heating coil or coils may be installed in tanks for carbon dioxide and nitrous oxide. Such coils must be tested externally to at least the same pressure as the test pressure of the tank. The coils must also be tested internally to at least twice the working pressure of the heating or refrigerating system to be used but in no case less than the test pressure of the tank. Such coils shall be securely anchored. The refrigerant or heating medium to be circulated through the coil or coils must be such as to cause no adverse chemical reaction with the tank or tank contents in case of leakage. If desired, the unit furnishing refrigeration may be mounted on the motor vehicle.

(l) Each MC 330 cargo tank used for flammable compressed gas or anhydrous ammonia must be equipped with liquid discharge controls that conform to the requirements of § 178.337-11(c) of this subchapter at each liquid discharge opening. The controls required by this paragraph must be installed not later than the date the tests prescribed by paragraph (e) of this section are required.

(49 U.S.C. 1655; 49 U.S.C. 1655(c)).

[Order 73, 32 FR 3453, Mar. 2, 1967, as amended by Amdt. 173-32, 35 FR 12610, Aug. 7, 1970; Amdt. 173-34, 35 FR 13836, Sept. 1, 1970; Amdt. 173-76, 38 FR 27596, Oct. 5, 1973; Amdt. 173-85, 39 FR 35173, Sept. 30, 1974; Amdt. 173-87, 39 FR 41741, Dec. 2, 1974; Amdt. 173-85, 39 FR 41744, Dec. 2, 1974; Amdt. 173-91, 40 FR 24902, June 11, 1975; Amdt. 173-91, 40 FR 44820, Sept. 30, 1975; Amdt. 173-94, 41 FR 16064, Apr. 15, 1976; Amdt. 173-96, 41 FR 17736, Apr. 28, 1976]

§ 173.34 Qualification, maintenance and use of cylinders.

(a) *General qualification for use of cylinders.* (See §§ 173.1 through 173.30 for requirements applying to all shipments.)

(1) No person may charge or fill a cylinder unless it is as specified in this

part and Part 178 of this subchapter. A cylinder that leaks, is bulged, has defective valves or safety devices, bears evidence of physical abuse, fire or heat damage, or detrimental rusting or corrosion, must not be used unless it is properly repaired and requalified as prescribed in these regulations.

(2) When cylinders with a marked pressure limit are prescribed, other cylinders made under the same specification but with a higher marked service pressure limit are authorized. For example, cylinders marked DOT-4B500 may be used where DOT-4B300 is specified.

(b) *Grandfather clause.* A cylinder in domestic use previous to the date upon which the specification therefor was first made effective in these regulations may be used if the cylinder has been properly tested and otherwise complies with the requirements applicable for the gas with which it is charged.

(c) *Cylinder marking.* Each required marking on a cylinder must be maintained so that it is legible. Retest markings and original markings which are becoming illegible may be reproduced by stamping on a metal plate which must be permanently secured to the cylinder.

(1) Additional markings not affecting any of the prescribed markings may be made in accordance with marking requirements of the specification.

(2) When the space originally provided for dates of subsequent retests becomes filled, the stamping of additional test dates into the external surface of the footring of a cylinder is authorized.

(3) A cylinder marking may not be changed except as follows:

(i) Marked service pressure may be changed only upon application to the Bureau of Explosives and receipt of written instructions as to the procedure to be followed. Such a change is not authorized for a cylinder which has failed to pass the prescribed periodic hydrostatic retest unless it is reheat treated and requalified in accordance with the requirements of this section.

(ii) Changes may be made in serial numbers and in the identification symbols by the owners. Indentification symbols must be registered and approved by the Bureau of Explosives. Serial numbers and identification symbols may be changed only by the owner upon his receipt of written approval from the Bureau of Explosives. The request for approval must identify the existing markings (including serial numbers) that correspond with the proposed new markings.

(4) When the space originally provided for dates of subsequent retests becomes filled, the stamping of additional test dates into the external surface of footrings of cylinders is authorized.

(5) [Reserved]

(d) *Safety relief devices.* Each cylinder charged with compressed gas, unless excepted in this paragraph, must be equipped with one or more safety relief devices approved, as to type, location, and quantity, by the Bureau of Explosives and must be capable of preventing explosion of the normally charged cylinder when it is placed in a fire. Cylinders shall not be shipped with leaking safety relief devices. Safety relief devices must be tested for leaks before the charged cylinder is shipped from the cylinder filling plant; it is expressly forbidden to repair leaking fuse plug devices, where leak is through the fusible metal or between the fusible metal and the opening in the plug body, except by removal of the device and replacement of the fusible metal.) Exceptions are as follows:

(1) Except as provided in Notes 1, 2, and 3, safety relief devices are not required on cylinders 12 inches or less in length, exclusive of neck, and 4½ inches or less in outside diameter.

NOTE 1: Safety relief devices are required on specifications 9, 40, 41, and 39 (§ 178.65 of this subchapter) cylinders. Metal safety relief valves are required on specification 39 cylinders used for liquefied flammable gases. Fusible safety relief devices are not authorized on specification 39 cylinders containing liquefied compressed gases.

NOTE 2: Safety relief devices are required on cylinders charged with a liquefied gas for which this part requires a service pressure of 1,800 psi or higher.

NOTE 3: Safety relief devices are required on cylinders charged with nonliquefied gases to a pressure of 1,800 psi or higher at 70° F.

(2) Except for specification 39 cylinders and cylinders for acetylene in solution, safety relief devices are not required on cylinders charged with non-liquefied gas under pressure of 300 p.s.i. or less at 70° F.

(3) Safety relief devices are prohibited on cylinders charged with Poison A gas or liquid.

(4) Safety relief devices are prohibited on cylinders charged with fluorine.

(5) Safety relief devices are not required on cylinders charged with methyl mercaptan; with mono-, di-, or trimethylamine, anhydrous; with not over 10 pounds of nitrosyl chloride; or with less than 165 pounds of anhydrous ammonia.

(6) [Reserved]

(7) Safety relief devices, if used, must be in the vapor space of cylinders containing pyroforic liquids, n.o.s., covered by § 173.134.

(e) *Periodic retesting and reinspection of cylinders.* Each cylinder becomes due for periodic retest in accordance with the following table and exceptions thereto:

Specification under which cylinder was made	Minimum retest pressure (p.s.i.)	Retest period (years)
DOT-3	3,000 p.s.i	5.
DOT-3A, 3AA	5/3 times service pressure, except noncorrosive service (see § 173.34 (e)(10)).	5 or 10 (see § 173.34 (e)(11), (e)(14), and (e)(15)).
DOT-3AX, 3AAX	5/3 times service pressure	5.
3B, 3BN	2 times service pressure (see § 173.34 (e)(10)).	5 or 10 (see § 173.34(e)(14)).
3C	Retest not required	
3D	5/3 times service pressure	5.
3E	Retest not required	
3HT	5/3 times service pressure	3 (see § 173.34(e)(13)).
3T	5/3 times service pressure	5.
4	700 p.s.i	10.
4A	5/3 times service pressure (see § 173.34(e)(10)).	5 or 10 (see § 173.34(e)(14)).
4AA480	2 times service pressure (see § 173.34 (e)(10)).	5 or 10 (see § 173.34(e)(11)).
4B, 4BA, 4BW, 4B-240ET	2 times service pressure, except noncorrosive service (see § 173.34(e) (10)).	5 or 10 (see § 173.34 (e)(9) and (e)(14)).
4C	Retest not required	
4D, 4DA, 4DS	2 times service pressure	5.
DOT-4E	2 times service pressure, except noncorrosive service (see § 173.34(e) (10)).	5.
4L	Retest not required	
8, 8AL	Retest not required	
DOT-9	400 p.s.i. (maximum 600 p.s.i.)	5.
25	500 p.s.i	5.
26 for filling at over 450 p.s.i	5/3 times service pressure	5.
26 for filling at 450 p.s.i. and below	2 times service pressure, except noncorrosive service (see § 173.34(e) (10)).	5 or 10 (see § 173.34(e)(9)).
33	800 p.s.i	5.
38	500 p.s.i	5.
Any cylinder with marked test pressure.	Retest at marked test pressure	5.
Foreign cylinder charged for export	As marked on the cylinder, but not less than 5/3 of any service or working pressure marking.	See § 173.301(j).

NOTE 1: For cylinders not marked with a service pressure, see § 173.301 (e) (1).

(1) This periodic retest must include a visual internal and external examination together with a test by interior hydrostatic pressure in a water jacket or other apparatus of suitable form for the determination of the expansion of the cylinder. The test apparatus must be approved as to type and operation by the Bureau of Explosives. The internal inspection may be omitted for cylinders of the type and in the service described under subparagraphs (9) and (10) of this paragraph.

(2) Cylinders of DOT 4 series, without regard to date of previous test, that show bad dents or other evidence of rough usage, or that are corroded locally to such extent as to indicate possible weak-

ness, or that have lost as much as 5 percent of their official tare weight, must be retested before being again charged and shipped. After any retest, the actual tare weight for those cylinders passing the test may be recorded as their new official tare weight.

(3) In hydrostatic retesting of a cylinder the pressure must be maintained for at least 30 seconds and as much longer as may be necessary to secure complete expansion of the cylinder. The gauge indicating the total expansion of the cylinder must be such that the total expansion can be read with an accuracy of 1 percent, except that a reading to 0.1 cubic centimeter shall be acceptable. The gauge indicating the pressure must be capable of being read to within 1 percent of the test pressure. Any internal pressure applied previous to the test pressure shall not exceed 90 percent of the test pressure. If, due to failure of the test apparatus, the test pressure cannot be maintained, the test may be repeated at a pressure increased by 10 percent or 100 psi, whichever is the lower value.

(4) A cylinder must be condemned when it leaks, or when internal or external corrosion, denting, bulging, or evidence of rough usage exists to the extent that the cylinder is likely to be weakened appreciably, or when the permanent expansion exceeds 10 percent of the total expansion, except that for DOT 4E aluminum cylinders, when the permanent expansion exceeds 12 percent of the total expansion. Except for DOT 4E aluminum cylinders, a cylinder condemned for excessive permanent expansion may be reheat-treated. (See paragraph (g) of this section.) DOT 4 series cylinders, condemned for other than excessive permanent expansion, may be repaired and rebuilt as otherwise provided in this section.

(5) Records showing the result of reinspection and retest must be kept by the owner or his authorized agent until either expiration of the retest period, or until the cylinder is again reinspected or retested, whichever occurs first.

(6) Each cylinder passing reinspection and retest must be marked with the date (month and year), plainly and permanently stamped into the metal of the cylinder or on a metal plate which must be permanently secured to the cylinder. For example, "40-70" for April 1970. The dash between the month and year figures may be replaced by the mark of the testing or inspecting agency. Stamping must be in accordance with marking requirements of the specification. Date of the previous tests must not be obliterated.

(7) Cylinders in chlorine or sulfur dioxide service made before April 20, 1915, must be retested at 500 psi.

(8) For cylinders of not over ten pounds water capacity which are authorized for service pressures not over 300 psi, the hydrostatic testing portion of the retest procedure may consist of application of the prescribed internal hydrostatic test pressure without the use of special apparatus and without the determination of total and permanent expansions. In this test the cylinders shall be examined while under pressure and must show no leak or other harmful defect as enumerated in subparagraph (4) of this paragraph.

(9) Cylinders made in compliance with specifications DOT 4B, DOT 4BA, DOT 4BW, DOT 4E, and ICC-26-300[1] (§§ 178.50, 178.51, 178.61, 178.68 of this subchapter) which are used exclusively for anhydrous dimethylamine; anhydrous monomethylamine; anhydrous trimethylamine; methyl chloride; liquefied petroleum gas; methylacetylene-propadiene stabilized; or dichlorodifluoromethane, difluoroethane, difluoromonochloroethane, monochlorodifluoromethane, monochlorotetrafluoroethane, monochlorotrifluorethylene, or mixture thereof, or mixtures of one or more with trichloromonofluoromethane; and which are commercially free from corroding components and protected externally by suitable corrosion resisting coatings (such as galvanizing, painting, etc.) may be retested decennially (see Note 2) instead of quinquennially, or, as an alternative such cylinders may be subjected to an internal hydrostatic pressure equal to at least two times the marked service pressure without determination of expansions (see Note 1), but this latter type of test must be repeated quinquennially after expiration of the first 10-year period (see Note 2). When subjected to this latter test, cylinders must be carefully examined under the test pressure and removed from service if leaks or other harmful defects exist.

NOTE 1: Cylinders tested by the modified hydrostatic method shall be marked after each retest with the date of test as otherwise required but followed by the symbol S; for example, 8-57S indicating retest by the modified method in August, 1957.

NOTE 2: Until further order of the Department, the decennial retest period may be extended to a 12-year period, and the quinquennial retest period may be extended to a 7-year period after expiration of the first 12-year period.

(10) Cylinders made in compliance with the specifications listed in the table below and used exclusively in the service indicated may, in lieu of the periodic hydrostatic retest, be given a complete external visual inspection at the time such periodic retest becomes due. External visual inspection as described in CGA Pamphlet C-6 will, in addition to the following requirements prescribed herein, meet the requirements for visual inspection.

When this inspection is used in lieu of hydrostatic retesting, subsequent inspections are required 5 years after the first such inspection and periodically at 5-year intervals thereafter. Inspections shall be made only by competent persons and the results shall be recorded on a suitable data sheet, the completed copies of which shall be kept as a permanent record. The points to be recorded and checked on these data sheets are: Date of inspection (month and year); DOT specification number; cylinders identification (registered symbol and serial number, date of manufacture, and ownership symbol (if needed for adequate identification)); type cylinder protective coating (painted, etc., and statement as to need of refinishing or recoating); conditions checked (leakage,

Cylinders made in compliance with—	*Used exclusively for—*
DOT-4, DOT-3A, DOT-3AA, DOT-3A480X, DOT-4A, DOT-4AA480.	Anhydrous ammonia of at least 99.95% purity.
DOT-3A, DOT-3AA, DOT-3A480X, DOT-3B, DOT-4B, DOT-4BA, DOT-4BW, ICC-26-240,[1] ICC-26-300.[1]	Butadiene, inhibited, which is commercially free from corroding components.
DOT-3A, DOT-3A480X, DOT-3AA, DOT-3B, DOT-4A, DOT-4AA480, DOT-4B, DOT-4BA, DOT-4BW.	Cyclopropane which is commercially free from corroding components.
DOT-3A, DOT-3AA, DOT-3A480X, DOT-4B, DOT-4BA, DOT-4BW, DOT-4E.	Fluorinated hydrocarbons and mixtures thereof which are commercially free from corroding components.
DOT-3A, DOT-3AA, DOT-3A480X, DOT-3B, DOT-4B, DOT-4BA, DOT-4BW, DOT-4E, ICC-26-240,[1] ICC-26-300.[1]	Liquefied hydrocarbon gas which is commercially free from corroding components.
DOT-3A, DOT-3AA, DOT-3A480X, DOT-3B, DOT-4B, DOT-4BA, DOT-4BW, DOT-4E, ICC-26-240,[1] ICC-26-300.[1]	Liquefied petroleum gas which is commercially free from corroding components.
DOT-3A, DOT-3AA, DOT-3B, DOT-4B, DOT-4BA, DOT-4BW, DOT-4E.	Methylacetylene-propadiene, stabilized, which is commercially free from corroding components.
DOT-3A, DOT-3AA, DOT-3B, DOT-4B, DOT-4BA, DOT-4BW.	Anhydrous mono, di, trimethylamines which are commercially free from corroding components.

[1] Use of existing cylinders authorized, but new construction not authorized.

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[1] Use of existing cylinders authorized but new construction not authorized.

corrosion, gouges, dents or digs in shell or heads, broken or damaged footring or protective ring or fire damage); disposition of clyinders (returned to service, to cylinder manufacturer for repairs or scrapped); a cylinder which passes the inspection prescribed shall have the date recorded in the manner presently prescribed for the recording of the retest date, except that an "E" is to follow the date (month and year) indicating requalification by the external inspection method.

(11) A cylinder made in compliance with specification DOT-3A, DOT-3A 480X, or DOT-4AA480 used exclusively for anhydrous ammonia, commercially free from corroding components, and protected externally by suitable corrosion resisting coatings (such as painting, etc.) may be retested every 10 years instead of every 5 years.

(12) All cylinders not exceeding 2 inches outside diameter and length less than 2 feet are exempted from hydrostatic retest.

(13) In addition to the requirements of this paragraph (e), cylinders marked DOT-3HT must be requalified in accordance with CGA Pamphlet C-8 and must comply with the following:

(i) Cylinders shall be subjected, at least once in three years, to a test by hydrostatic pressure in a water jacket, for the determination of the expansion of the cylinder. A cylinder must be condemned if the elastic expansion exceeds the original elastic expansion by more than 5 percent.

(ii) A cylinder must be condemned if there is evidence of any denting or bulging.

(iii) A cylinder must be condemned at the termination of a 15-year period following the date of the original test or after 4,380 pressurizations, whichever occurs first. If a cylinder is recharged more than an average of once every other day, an accurate record of the number of rechargings must be maintained by its owner, or his agent.

(iv) Retest dates shall be applied by low stress type steel stamping to a depth no greater than that of the original marking at the time of manufacture. Stamping on sidewall not authorized.

(14) Cylinders made in compliance with specifications DOT-3A, DOT-3AA, DOT-3B, DOT-4A, DOT-4BA, and DOT-4BW (§§ 178.36, 178.37, 178.38, 178.49, 178.51, 178.61 of this chapter) having service pressures up to and including 300 p.s.i. which are used exclusively for methyl bromide, liquid; mixtures of methyl bromide and ethylene dibromide, liquid; mixtures of methyl bromide and chlorpicrin, liquid; mixtures of methyl bromide and petroleum solvents, liquid; or methyl bromide and nonflammable, nonliquefied compressed gas mixtures, liquid; which are commercially free from corroding components, and which are protected externally by suitable corrosion resisting coatings (such as galvanizing, painting, etc.) and internally by a suitable corrosion resisting lining (galvanized, etc.) may be tested decennially instead of quinquennially. All tests must be supplemented by a visual internal and external examination of the cylinder quinquennially. Examination must be as required by CGA Pamphlet C-6. All tests must be supplemented by a very careful examination of the cylinder at each filling, and the cylinder must be rejected if evidence is found of bad dents, corroded areas, a leak, or other conditions that indicate possible weakness which would render the cylinder unfit for service.

(15) A cylinder made in compliance with specification DOT-3A or 3AA, not exceeding 125 pounds water capacity and removed from any cluster, bank, group, rack, or vehicle each time it is filled, may be retested every 10 years instead of every 5 years, provided the cylinder complies with all of the following:

(i) The cylinder is not over 35 years old when it is retested.

(ii) The cylinder is used exclusively for: Air, argon, cyclopropane, ethylene, helium, hydrogen, krypton, neon, nitrogen, nitrous oxide, oxygen, xenon, and permitted mixtures thereof (see § 173.301(a)) and permitted mixtures of these gases with up to 30 percent by volume of carbon dioxide. These commodities must have a dewpoint at or below minus 52° F. at 1 atmosphere.

(iii) Prior to each refill, the cylinder is subjected to, and passes the hammer test specified in CGA Pamphlet C-6.

(iv) A cylinder currently in compliance with subdivisions (i), (ii), and (iii) of this subparagraph but which has not been confined to the exclusive use service specified since the last required hydrostatic retest is retested and examined in accordance with the requirements of § 173.302(c) (2), (3), and (4) before the periodic retest interval is extended to 10 years.

(v) Each cylinder less than 35 years old is stamped with a five pointed star at least one-fourth of an inch high following the test date. If at any time a cylinder marked with the star is used other than as specified in this paragraph, the star following the most recent test date is obliterated and subsequent tests are made every 5 years.

(vi) The cylinder is dried immediately following hydrostatic testing to remove all traces of free water.

(vii) The cylinder is not used for underwater breathing.

(16) A cylinder that previously contained a commodity classified as a "corrosive liquid" must not be used for the transportation of any compressed gas unless the following requirements are complied with before the subsequent initial filling with the compressed gas.

(i) The cylinder must be visually inspected, internally and externally, in accordance with the CGA Pamphlet C-6.

(ii) Regardless of the previous test or retest date, the cylinder must be tested by interior hydrostatic pressure and must meet the acceptance criteria as specified in subparagraphs (1), (2), (3), and (4) of this paragraph.

(iii) In addition to the record prescribed in subparagraph (5) of this paragraph, the record of the inspection and test shall include the date (month and year) of the inspection and test; the cylinder identification (including ICC or DOT specification number, registered symbol, serial number, date of manufacture, and ownership symbol); the conditions checked (leakage, corrosion, gouges, dents, or digs in shell or heads, broken or damaged footrings, or fire damage) and the disposition of the cylinder (returned to service, returned to the manufacturer for repairs, or scraped).

(iv) A cylinder requalified for compressed gas service in accordance with this subparagraph may have its next retest and inspection scheduled from the date of the inspection and retest prescribed herein.

(v) A cylinder that contained any corrosive liquid, for which decontamination methods cannot remove all significant residue or impregnation by the former corrosive content must not be used for the transportation of any compressed gas.

(f) *Cylinders subjected to the action of fire.* A cylinder which has been subjected to the action of fire must not again be placed in service until it has been properly reconditioned as follows:

(1) A cylinder made of plain carbon steel with not over 0.25 percent carbon nor over 0.90 manganese need not be reheat-treated but must pass the periodic retest requirements as specified in paragraph (e) of this section.

(2) DOT-8 cylinders made of plain carbon steel with not over 0.25 percent carbon nor over 0.90 percent manganese must be reinspected to determine the condition of the cylinder and the porous filling. If the cylinder is undamaged and the filler is unchanged and intact, the cylinder may be returned to service without reheat treatment or test.

(3) The inner cylinders made under specification DOT-4L (§ 178.57 of this chapter) may be used after again passing the original hydrostatic test.

(4) DOT-4E aluminum cylinders must be removed from service.

(5) Other cylinders must be reheat treated and reconditioned as specified in paragraph (g) of this section.

(g) *Reheat treatment.* (1) Previous to the reheat treatment procedure hereinafter prescribed, each cylinder must be subjected to a careful internal and external inspection.

(2) Cylinders must be segregated for reheat treatment in lots of 100 or less cylinders of the same general size having practically the same chemical composition.

(3) The reheat treatment operation must be carried out, supervised, and reported as prescribed for the heat treatment in the specification covering the manufacture of the cylinder in question. Data from the original reports of manufacture of the cylinders must be available.

(4) The reheat treatment must be followed by hydrostatic retest, such retest to be carried out, supervised, and reported as prescribed for the hydrostatic tests in the specification covering the manufacture of the cylinder in question.

The results of the retest must meet either of the following conditions:

(i) The permanent expansion shall be from zero to 10 percent of the total expansion in the hydrostatic retest and one cylinder from each lot shall pass the requirements of the flattening and physical tests prescribed. Failure to pass the flattening or physical tests will reject the lot or;

(ii) The permanent expansion shall not be less than 3 percent nor more than 10 percent of the total expansion in the hydrostatic retest, in which case the flattening and physical tests are not required. For this alternative method the hydrostatic retest pressure shall not exceed 115 percent of the minimum prescribed test pressure except with specific approval of the Bureau of Explosives.

(h) *Repair by welding or brazing of specifications DOT-3A, 3AA, 3B, 3C cylinders.* Repair of specifications DOT-3A, 3AA, 3B or 3C (§§ 178.36, 178.37, 178.38, or 178.40 of this subchapter) cylinders by welding or brazing authorized, but only for the removal and replacement of neckrings and footrings attached to cylinders originally manufactured to conform to §§ 178.36-9(a), 178.37-9(a), 178.38-9(a), and 178.40-9(a) of this subchapter. Removal and replacement must be done by a regular manufacturer of this type of cylinder. After removal and before replacement of such parts, cylinders must be inspected, and defective ones rejected. Cylinders, neckrings, footrings, and method of replacement must conform to § 178.36-9(a), § 178.37-9(a), § 178.38-9(a), or § 178.40-9(a) of this subchapter whichever applies. Replacement must be followed by reheat treating, testing, inspection, and supervised and reported as prescribed by the specification covering their original manufacture. Inspector's reports must conform with that required by the specification covering original manufacture with the word "repaired" substituted for "manufactured." Show original markings and the new additional markings added, and statement: "Cylinders were carefully inspected for defects after removal of neckrings and footrings and after replacement, which replacement was made by process of ________________."
(Welding-brazing)

(i) *Repair by welding or brazing of DOT-4 series, and DOT-8, welded or brazed cylinders.* Repairs on DOT-4 series and DOT-8 series welded or brazed cylinders are authorized to be made by welding or brazing. Such repairs must be made by a manufacturer of these types of DOT cylinders or by a repair facility authorized by the Bureau of Explosives and by a process similar to that used in its manufacture and under the following specific requirements:

(1) Cylinders with injurious defects in welded joints in or on pressure parts must be repaired by completely removing the defect prior to rewelding.

(2) Cylinders with injurious defects in brazed joints in or on pressure parts must be repaired by rebrazing.

(3) Cylinders during welding must be free of materials in contact with the welded joint that may impair the serviceability of the metal in or adjacent to the weld. (Precautions must be taken to prevent acetylene cylinder steels from picking up carbon during repair.)

(4) Neckrings, footrings, or other nonpressure attachments authorized by the specification may be replaced or repaired. Repair or replacement of footrings, neckrings, or other nonpressure attachments authorized by the specification for DOT-4BA and 8AL (§§ 178.51 and 178.60 of this subchapter) cylinders may be made without conforming to the requirements of subparagraph (i)(6) of this section provided the following requirements are met:

(i) Must be done by a manufacturer of these types of DOT cylinders or by a repair facility authorized by the Bureau of Explosives.

(ii) The welder shall have available to him information as to the procedure, equipment, and rod used during manufacture and shall use a similar method for repair.

(iii) Repairs must be by metal arc welding only. Welds shall be 3 inches maximum length and spaced at least 3 inches apart.

(iv) Welds shall not be made on or near a brazed joint (to prevent the possibility of copper penetration).

(v) After repair the welds are to be inspected visually for weld quality.

(vi) After repair the weld area is to be leak tested at the service pressure of the cylinder.

(5) After removal, and before replacement of attachments, cylinders must be inspected and defective ones rejected, repaired or rebuilt.

(6) After repair, cylinders must be reheat-treated, tested, inspected and reported when and as prescribed by the specification covering their original manufacture when welding or brazing seams in a pressure part of a cylinder; or when welding or brazing on pressure parts of cylinders of plain carbon steels with carbon over 0.25 percent or manganese over 1.00 percent or of alloy steels except as provided in § 173.34(i)(7).

NOTE 1: Heat-treatment is not required after welding or brazing weldable low carbon parts to attachments of similar material which has been previously welded or brazed to the top or bottom of cylinders and properly heat-treated, provided such subsequent welding or brazing does not produce a temperature in excess of 400° F. in any part of the top or bottom material.

(7) Repair of cylinders must be followed by a proof pressure leakage test at prescribed test pressure and visual examination for weld quality when welding on pressure parts of cylinders of plain carbon 0.25 percent or less and manganese 1.00 percent or less, or when repairing steel types 1315, NAX and GLX by the following procedure:

(i) Leakage through the welding metal may be repaired without subsequent reheat treatment of the cylinder.

(ii) Repair permitted only by either the metal arc or tungsten inert gas shielded arc process. E7015, 7016, or 7018 electrodes not larger than ⅛ inch diameter shall be used for the metal arc process.

(iii) Weld defects must be removed by grinding or chipping before repair by the metal arc process. The tungsten inert gas shielded arc process may be used for repair only when such repair can be made by puddling. Repair weld shall not exceed 1 inch in length nor be closer than 3 inches to the next repair area.

(iv) Repair of weld defects which have any cracking is not permitted.

(j) *Repair of non-pressure attachments.* Repair of non-pressure attachments by welding or brazing without affecting a pressure part of the cylinder must be followed by visual examination for weld quality.

(k) *Prohibited repairs.* Walls, heads or bottoms of cylinders with injurious defects or leaks in base metal shall not be repaired, but may be replaced as provided for in paragraph (l) of this section.

(l) *Rebuilding of DOT 4 series and DOT 8, welded or brazed cylinders.* Rebuilding of DOT 4 series and DOT 8 series, welded or brazed cylinders is authorized. Such rebuilding must be done by a manufacturer of these types of DOT cylinders or by a repair facility authorized by the Bureau of Explosives and by a process similar to that used in its original manufacture and under the following specific requirements:

(1) The replacement of a pressure part such as wall, heads, or bottoms of cylinders or the replacement of the porous filling material, shall be considered as rebuilding.

(2) Rebuilt cylinders shall be considered as new cylinders and shall conform to all the requirements of the specifications applying, including verification of material, examination, inspection, etc., and the rendering of the proper reports to the purchaser, cylinder rebuilder, and the Bureau of Explosives. Report must show that cylinders were rebuilt.

(3) Information in sufficient detail regarding previous serial numbers and identification symbols must be filed with the Bureau of Explosives.

[29 F.R. 18671, Dec. 29, 1964, as amended by Order 66, 30 F.R. 5743, Apr. 23, 1965; Order 71, 31 F.R. 9069, July 1, 1966; Amdt. 173-11, 34 F.R. 12589, Aug. 1, 1969; Amdt. 173-16, 34 F.R. 18248, Nov. 14, 1969; Amdt. 173-19, 35 F.R. 5331, Mar. 31, 1970; Amdt. 173-47, 36 F.R. 10732, June 2, 1971; 36 F.R. 10952, June 5, 1971; Amdt. 173-53, 36 F.R. 16580, Aug. 24, 1971; Amdt. 173-54, 36 F.R. 18469, Sept. 15, 1971; Amdt. 173-55, 36 F.R. 20604, Oct. 27, 1971; Amdt. 173-64, 37 F.R. 14587, July 21, 1972; Amdt. 173-75, 38 FR 21990, Aug. 15, 1973; Amdt. 173-94, 41 FR 16064, Apr. 15, 1976]

Subpart C—Explosives; Definitions and Preparation

SOURCE: 29 FR 18683, Dec. 29, 1964, unless otherwise noted. Redesignated at 32 FR 5606, Apr. 5, 1967.

§ 173.50 An explosive.

(a) For the purpose of Parts 170–189 of this subchapter an explosive is defined as any chemical compound, mixture, or device, the primary or common purpose of which is to function by explosion, i.e., with substantially instantaneous release of gas and heat, unless such compound, mixture, or device is otherwise specifically classified in Parts 170–189 of this subchapter.

§ 173.51 Forbidden explosives.

(a) Unless otherwise provided in this subchapter, the offering of the following explosives for transportation is forbidden.

(1) Explosive compositions that ignite spontaneously or undergo marked decomposition when subjected for 48 consecutive hours to a temperature of 75° C. (167° F.).

(2) Explosives containing an ammonium salt and a chlorate.

(3) Liquid nitroglycerin, diethylene glycol dinitrate or other liquid explosives not authorized by § 173.53 (e) and (h). (For shipment by carrier by motor vehicle other than common carriers, see § 177.822 (b) of this chapter).

(4) Explosives condemned by the Bureau of Explosives (except properly packed samples for laboratory examinations). Appeal may be made to the Department from such condemnations.

(5) Leaking or damaged packages of explosives.

(6) Condemned or leaking dynamite must not be repacked and offered for shipment unless the repacking is done by a competent person in the presence of, or with the written consent of, an inspector, or with the written authority of the chief inspector of the Bureau of Explosives.

(7) Firecrackers, flash crackers, salutes, or similar commercial devices which produce or are intended to produce an audible effect, the explosive content of which exceeds 12 grains each in weight, and pest control bombs, the explosive content of which exceeds 18 grains each in weight; and any such devices, without respect to explosive content, which on functioning are liable to project or disperse metal, glass or brittle plastic fragments.

(8) Fireworks that combine an explosive and a detonator or blasting cap.

(9) Fireworks containing an ammonium salt and a chlorate.

(10) Fireworks containing yellow or white phosphorus.

(11) Fireworks or fireworks compositions that ignite spontaneously or undergo marked decomposition when subjected for 48 consecutive hours to a temperature of 75° C. (167° F.).

(12) Fireworks, properly condemned by the Bureau of Explosives, except properly repacked samples for laboratory examinations.

(13) Toy torpedoes, the maximum outside dimension of which exceeds ⅞ inch, or toy torpedoes containing a mixture of potassium chlorate, black antimony and sulfur with an average weight of explosive composition in each torpedo exceeding four grains.

(14) Toy torpedoes containing a cap composed of a mixture of red phosphorus and potassium chlorate exceeding an average of one-half (0.5) grain per cap.

(15) Fireworks containing copper sulfate and a chlorate.

(16) New explosives and explosive devices except as provided for in § 173.86.

(17) Loaded firearms.

[29 F.R. 18683, Dec. 29, 1964, as amended by Amdt. 173–6, 34 FR 7160, May 1, 1969; Amdt. 173–94, 41 FR 16064, Apr. 15, 1976]

§ 173.52 Acceptable explosives.

(a) For the purposes of this subchapter, acceptable explosives are divided into three classes as follows (acceptable military explosives must be transported on board vessels in accordance with 46 CFR 146.29):

(1) Class A explosives; detonating or otherwise of maximum hazard.

(2) Class B explosives; flammable hazard.

(3) Class C explosives; minimum hazard.

CLASS A EXPLOSIVES; DEFINITIONS

§ 173.53 Definition of class A explosives.

(a) *Type 1.* Solid explosives which can be caused to deflagrate by contact with sparks or flame such as produced by safety fuse or an electric squib, but cannot be detonated (see Note 1) by means of a No. 8 test blasting cap (see Note 2). Example: Black powder and low explosives.

(b) *Type 2.* Solid explosives which contain a liquid explosive ingredient, and which, when unconfined (see Note 3), can be detonated by means of a No. 8 test blasting cap (see Note 2); or which can be exploded in at least 50 percent of the trials in the Bureau of Explosives' Impact Apparatus (see Note 4) under a drop of 4 inches or more, but cannot be exploded in more than 50 percent of the trials under a drop of less than 4 inches. Example: High explosives, commercial dynamite containing a liquid explosive ingredient.

(c) *Type 3.* Solid explosives which contain no liquid explosive ingredient and which can be detonated, when unconfined (see Note 3), by means of a No. 8 test blasting cap (see Note 2); or which can be exploded in at least 50 percent of the trials in the Bureau of Explosives' Impact Apparatus (see Note 4) under a drop of 4 inches or more, but cannot be exploded in more than 50 percent of the trials under a drop of less than 4 inches. Example: High explosives, commercial dynamite containing no liquid explosive ingredient, trinitrotoluene, amatol, tetryl, picric acid, urea nitrate, pentolite, and commercial boosters.

(d) *Type 4.* Solid explosives which can be caused to detonate when unconfined (see Note 3), by contact with sparks or flame such as produced by safety fuse or an electric squib; or which can be exploded in the Bureau of Explosives' Impact Apparatus (see Note 4), in more than 50 percent of the trials under a drop of less than 4 inches. Example: Initiating and priming explosives, lead azide, fulminate of mercury, etc., and high explosives.

(e) *Type 5.* Desensitized liquid explosives are explosives which may be detonated separately or when absorbed in sterile absorbent cotton, by a No. 8 test blasting cap (see Note 2); but which cannot be exploded in the Bureau of Explosives' Impact Apparatus (see Note 4), by a drop of less than 10 inches. The desensitizer must not be significantly more volatile than nitroglycerine and the desensitized explosive must not freeze at temperatures above minus 10° F. Example: High explosives, desensitized nitroglycerine.

(f) *Type 6.* Liquid explosives that can be exploded in the Bureau of Explosives' Impact Apparatus (see Note 4) under a drop of less than 10 inches. Example: Nitroglycerin. (See § 173.51 (d).)

(g) *Type 7.* Blasting caps (see Note 5) are small tubes, usually made of an alloy of either copper or aluminum, or of molded plastic closed at one end and loaded with a charge of initiating or priming explosives, class A—Type 4, either with or without other suitable explosives. The total weight of explosives per unit shall not exceed 150 grains. Blasting caps (see Note 5) which have been provided with a means for firing by an electric current, and sealed, are known as electric blasting caps.

(1) Detonating primers are devices for commercial use which contain a detonator and an additional charge of explosives, all assembled in a suitable envelope.

(2) Detonating fuzes, class A, are used in the military service to detonate the high explosive bursting charges of projectiles, mines, bombs, torpedoes, and grenades. In addition to a powerful detonator, they may contain several ounces of a high explosive, such as tetryl or dry nitrocellulose, all assembled in a heavy steel envelope. They may also contain a small amount of radioactive component. Those that are so made and packed that they will not cause functioning of other fuzes, explosives, or explosive devices in the same or adjacent containers are classed as class C explosives.

(h) *Type 8.* Any solid or liquid compound, mixture or device which is not specifically included in any of the above types, and which under special conditions may be so designated and approved by the Bureau of Explosives. Example: Shaped charges, commercial.

(1) A shaped charge, commercial, consists of a plastic, paper, or other suitable container comprising a charge of not to exceed 8 ounces of a high explosive containing no liquid explosive ingredient and with a hollowed-out portion (cavity) lined with a rigid material. Detonators or other initiating elements shall not be assembled in the device unless approved by the Bureau of Explosives.

NOTE 1: The detonation test is performed by placing the sample in an open-end fiber tube which is set on the end of a lead block approximately 1½ inches in diameter and 4 inches high which, in turn, is placed on a solid base. A steel plate may be placed between the fiber tube and the lead block.

NOTE 2: A No. 8 test blasting cap is one containing two grams of a mixture of 80 percent mercury fulminate and 20 percent potassium chlorate, or a cap of equivalent strength.

NOTE 3: "Unconfined" as used in this section does not exclude the use of a paper or soft fiber tube wrapping to facilitate tests.

NOTE 4: The Bureau of Explosives Impact Apparatus is a testing device designed so that a guided 8-pound weight may be dropped from predetermined heights so as to impact specific quantities of liquid or solid materials under fixed conditions. Detailed prints may be obtained from the Bureau of Explosives, 2 Pennsylvania Plaza, New York, New York, 10001.

NOTE 5: Blasting caps, blasting caps with safety fuse, or electric blasting caps in quantities of 1,000 or less are classified as class C explosives.

(i) *Ammunition for cannon.* Ammunition for cannon is fixed, semi-fixed or separate loading ammunition which is fired from a cannon, mortar, gun, howitzer or recoilless rifle.

(j) *Ammunition for cannon with projectiles.* Ammunition for cannon with explosive projectiles, gas projectiles, smoke projectiles, incendiary projectiles, illuminating projectiles, or shell is fixed ammunition assembled in a unit consisting of the cartridge case containing the propelling charge and primer, and the projectiles, or shell, fuzed or unfuzed. Detonating fuzes, tracer fuzes, explosive or ignition devices, or fuze parts with explosives contained therein must not be assembled in ammunition or included in the same outside package unless shipped by, for, or to the Departments of the Army, Navy, and Air Force of the United States Government or unless of a type approved by the Bureau of Explosives.

(k) *Explosive projectiles.* Explosive projectiles are shells, projectiles, warheads, or rocket heads, loaded with explosives or bursting charges, with or without other materials, for use in cannons, guns, tubes, mortars or other firing or launching devices.

(l) *Grenades.* Grenades, hand or rifle, are small metal or other containers designed to be thrown by hand or projected from a rifle. They are filled with an explosive or a liquid, gas, or solid material such as a toxic or tear gas or an incendiary or smoke producing material and a bursting charge. When shipped without explosives or bursting charges, see §§ 173.100(y), 173.330, 173.350, and 173.385.

(m) *Explosive bombs.* Explosive bombs are metal or other containers filled with explosives. They are used in warfare and include aeroplane bombs and depth bombs.

(n) *Explosive mines.* Explosive mines are metal or composition containers filled with a high explosive.

(o) *Explosive torpedoes.* Explosive torpedoes, such as are used in warfare, are metal devices containing a means of propulsion and a quantity of high explosives.

(p) *Rocket ammunition.* Rocket ammunition (including guided missiles) is ammunition designed for launching from a tube, launcher, rails, trough, or other launching device, in which the propellant material is a solid propellant explosive. It consists of an igniter, rocket motor, and projectile (warhead) either fuzed or unfuzed, containing high explosives or chemicals. Rocket ammunition may be shipped completely assembled or may be shipped unassembled in one outside container.

(q) *Ammunition for small arms with explosive projectiles or incendiary projectiles.* Ammunition for small arms with explosive projectiles and ammunition for small arms with incendiary projectiles is fixed ammunition of caliber 20 millimeters to be used in machine guns or cannons, and consists of a metallic cartridge case, the primer and the propelling charge, with explosive projectile or incendiary projectile with or without detonating fuze; the component parts necessary for one firing being all in one assembly. Detonating fuzes, tracer fuzes, explosive or ignition devices or fuze parts with explosives contained therein must not be assembled in ammunition or included in the same outside package unless shipped by, for or to the Departments of the Army, Navy, and Air Force of the U.S. Government or unless of a type approved by the Department.

(r) *Chemical ammunition.* Chemical ammunition used in warfare is all kinds of explosive chemical projectiles, shells, bombs, grenades, etc., loaded with toxic, tear, or other gas, smoke or incendiary agent, also such miscellaneous apparatus as cloud-gas cylinders, smoke generators, etc., that may be utilized to project chemicals.

(s) *Boosters, bursters, and supplementary charges.* Boosters and supplementary charges consist of a casing containing a high explosive and are used to increase the intensity of explosion of the detonator of a detonating fuze. Bursters consist of a casing containing a high explosive and are used to rupture a projectile or bomb to permit release of its contents.

(t) *Jet thrust units (jato), class A explosives; rocket motors, class A explosives; igniters, jet thrust (jato), class A explosives; and igniters, rocket motor, class A explosives:*

(1) Jet thrust units (jato), class A explosives, are metal cylinders containing a mixture of chemicals capable of burning rapidly and producing considerable pressure. Under certain conditions the chemical fuel with which the unit is loaded may explode. Jet thrust units are designed to be ignited by an electric igniter. They are used to assist aeroplanes to take off.

(2) Rocket motor, class A explosives, is a device containing a propelling charge and consisting of one or more continuous type combustion unit(s) closed at one end (closure may be an igniter with a thrust plate) and with a nozzle(s) at the other end. (The rocket motor carries its own solid oxidizer-fuel combination.) The propelling charge consists of a mixture of chemicals and/or chemical compounds which when ignited is capable of burning rapidly and producing considerable pressure and which will sustain a detonation. Rocket motors, class A explosives, should be nonpropulsive in shipment (see subdivisions (i) and (ii) of this subparagraph). Rocket motors, class A explosives, are designed to be ignited by an electrically actuated device which may be an igniter, or by other means. They are used to propel and/or provide thrust for guided missiles, rockets, or spacecraft.

(i) A rocket motor to be considered "nonpropulsive" must be capable of unrestrained burning and will not move appreciably in any direction when ignited by any means. Blast deflectors, thrust neutralizers, or other similar devices must be proven adequate by test prior to authorization for use.

(ii) Rocket motors, class A explosives may be shipped in a propulsive state only under conditions approved by the Department of Defense.

(3) Igniters, jet thrust (jato), class A explosives, and igniters, rocket motor, class A explosives, are devices consisting of an electrically operated or remotely controlled ignition element and a charge of fast-burning composition meeting the definition prescribed for Type 1 class A explosives (see paragraph (a) of this section), assembled in a unit for use in igniting the propelling charge of jet thrust units or rocket motors.

(u) *Charged oil well jet perforating guns.* Charged oil well jet perforating guns are steel tubes or metallic strips into which are inserted shaped charges connected in series by primacord. Shaped charges must be of a type described in paragraph (h)(1) of this section, except that each shaped charge installed in the steel tube or metallic strip shall contain not over 4 ounces of high explosive. Charged oil well jet perforating guns must not be transported with blasting caps, electric blasting caps, or other firing devices affixed to or installed in the guns.

(v) *Type 9.* Propellant explosives, class A, are solid chemicals or solid chemical mixtures which are designed to function by rapid combustion of successive layers, generally with little or no smoke. The combustion is controlled by composition, size, and form of grain. Propellant explosives, class A, include some types of smokeless powder and some types of solid propellant explosives for jet thrust units, rockets, or other devices. Any propellant explosive is class A which detonates in any one out of five trials when tested in the packages in which it is offered for transportation. In conducting the test, one propellant container shall be surrounded by inert loaded containers of the same weight, including one inert container placed on top of the propellant container. The propellant shall be ignited by means of a commercial electric squib placed within 4 inches of the bottom of the container. The presence of a crater and absence of flame shall be considered as evidences of detonation.

[29 FR 18683, Dec. 29, 1964, as amended by Order 72, 31 F.R. 6423, Apr. 28, 1966; Order 71, 31 F.R. 9069, July 1, 1966; Amdt. 173-6, 34 F.R. 7160, May 1, 1969; Amdt. 173-54, 36 F.R. 18469, Sept. 15, 1971]

§ 173.54 Ammunition for cannon.

(a) Ammunition for cannon with explosive projectiles, gas projectiles, smoke projectiles, incendiary projectiles, illuminating projectiles, or shell must be packed and properly secured in strong wooden or metal containers, or in plastic containers as listed on U.S. Army Materiel Command Drawing No. A-9205248, dated December 9, 1964.

(b) Each outside package must be plainly marked "AMMUNITION FOR CANNON WITH EXPLOSIVE PROJECTILES," "AMMUNITION FOR CANNON WITH SMOKE PROJECTILES," "AMMUNITION FOR CANNON WITH INCENDIARY PROJECTILES," or "AMMUNITION FOR CANNON WITH ILLUMINATING PROJECTILES," as appropriate.

[29 FR 18683, Dec. 29, 1964, as amended by Order 71, 31 FR 9069, July 1, 1966; Amdt. 173-94, 41 FR 16064, Apr. 15, 1976]

§ 173.55 Ammunition, nonexplosive.

(a) Nonexplosive ammunition is defined as a device which contains no explosives or other dangerous articles, such as cartridge cases, dummy or drill cartridges; empty, sand loaded or solid projectiles with or without tracers (containing not in excess of one ounce of tracer composition), empty mines, empty bombs, solid projectiles, empty torpedoes, or practice bombs. It also includes devices containing no explosives, or other dangerous articles, except installed electric squibs, primers, propellants or thermal batteries required for the activation of the device, provided that it has been proven by test that when initiated the full energy release is contained within the outside shipping container. Such ammunition is exempt from Parts 170-189 of this chapter. Rotating bands should be protected against deformation by method of packing or loading.

§ 173.56 Ammunition, projectiles, grenades, bombs, mines, gas mines, and torpedoes.

(a) Detonating fuzes, tracer fuzes, explosive or ignition devices, bouchons, or fuze parts with explosives contained therein, must not be assembled in explosive projectiles, grenades, explosive bombs, explosive mines, or explosive torpedoes, or included in the same outside package with them unless shipped by, for, or to the Departments of the Army, Navy, and Air Force of the United States Government or unless of a type approved by the Bureau of Explosives.

(b) Explosive projectiles, explosive torpedoes, explosive mines, explosive bombs, or explosive grenades except as provided in paragraph (c) of this section, must be packed and properly secured in strong wooden or metal boxes.

(c) Explosive projectiles, explosive torpedoes, explosive mines, or explosive bombs, exceeding 90 pounds in weight, and explosive projectiles of not less than 4½ inches in diameter, may be shipped without being boxed only by, for, or to the Departments of the Army, Navy, and Air Force of the United States Government when securely blocked and braced in accordance with methods approved by the Bureau of Explosives.

(1) Explosive projectiles less than 4½ inches in diameter may be shipped without being boxed, when palletized, only by, for, or to the Departments of the Army, Navy, and Air Force of the United States Government when securely blocked and braced in accordance with methods approved by the Bureau of Explosives.

(d) Gas projectiles, smoke projectiles, incendiary projectiles, illuminating projectiles, gas bombs, smoke bombs, incendiary bombs, gas grenades, smoke grenades, incendiary grenades, and gas mines, explosive, containing a bursting charge must be packed and properly secured in strong wooden boxes. Detonating fuzes, boosters or bursters, bouchons or ignition elements must not be assembled in these articles or included in the same package with them unless shipped by, for, or to the Departments of the Army, Navy, or Air Force of the United States Government or unless of a type approved by the Bureau of Explosives. (See §§ 173.190, 173.330, 173.350, and 173.383 for nonexplosive chemical or poisonous ammunition.)

(e) The gross weight of a box containing more than one projectile, mine, grenade, or bomb must not exceed 250 pounds.

(1) Explosive bombs packed more than one in shipping containers having gross weights not in excess of 1,400 pounds may be shipped by, for or to the Departments of the Army, Navy, and Air Force of the U.S. Government.

(f) Each exterior package or projectile, bomb, or mine must be plainly marked "Explosive Projectile," "Explosive Torpedo," "Explosive Mine," "Explosive Bomb," "Hand Grenades," or "Rifle Grenades," as the case may be, except that each device need not be so marked when palletized and the palletized units are plainly marked and shipped as carload or truckload shipments.

(g) Bombs, projectiles, grenades, ammunition for cannon with gas projectiles, or other packagings loaded with Poison A, and an explosive charge, either boxed or unboxed (see paragraph (c) of this section) must bear the POISON GAS label in addition to the EXPLOSIVE label.

(h) For regulations for shipping ammunition containing chemicals but no explosives or bursting charges, see chemical ammunition, §§ 173.330, 173.350, and 173.383.

[29 FR 18683, Dec. 29, 1964, as amended by Order 71, 31 FR 9069, July 1, 1966; Amdt. 173-94, 41 FR 16064, Apr. 15, 1976]

§ 173.57 Rocket ammunition.

(a) Rocket ammunition with explosive projectiles, gas projectiles, smoke projectiles, incendiary projectiles, or illuminating projectiles must be well packed and properly secured in strong wooden or metal containers or in pre-formed fiber glass resin impregnated containers approved by the Bureau of Explosives.

(b) Each outside package must be plainly marked "ROCKET AMMUNITION WITH EXPLOSIVE PROJECTILES," "ROCKET AMMUNITION WITH GAS PROJECTILES," "ROCKET AMMUNITION WITH SMOKE PROJECTILES," "ROCKET AMMUNITION WITH INCENDIARY PROJECTILES," or "ROCKET AMMUNITION WITH ILLUMINATING PROJECTILES," as appropriate.

[29 FR 18683, Dec. 29, 1964, as amended by Amdt. 173-94, 41 FR 16065, Apr. 15, 1976]

§ 173.58 Ammunition for small arms.

(a) Ammunition for small arms with explosive projectiles or incendiary projectiles must be well packed and properly secured in strong metal or wooden containers. The gross weight of the outside package must not exceed 175 pounds.

(b) Each outside package must be plainly marked "AMMUNITION FOR SMALL ARMS WITH EXPLOSIVE PROJECTILES," or "AMMUNITION FOR SMALL ARMS WITH INCENDIARY PROJECTILES," as the case may be.

[Order 71, 31 FR 9069, July 1, 1966, as amended by Amdt. 173-94, 41 FR 16065, Apr. 15, 1976]

§ 173.59 Chemical ammunition, explosive.

(a) When chemical elements of ammunition are shipped assembled with their detonating fuzes or bursting charges, they must be shipped in conformity with the regulations prescribed for explosive articles, class A, see § 173.56. For shipment of these articles not containing ignition elements, bursting charges, detonating fuzes, or other explosive components, see § 173.330, § 173.350, and § 173.383. For shipment of these articles assembled with their ignition elements or expelling charges but without any detonating or bursting charge see § 173.88(d).

[29 FR 18683, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16065, Apr. 15, 1976]

§ 173.60 Black powder and low explosives.

(a) Black powder and low explosives must be packed in containers complying with the following specifications:

(1) [Reserved]

(2) Spec. 13 (§ 178.140 of this subchapter). Metal kegs, not less than 7 inches long. Net weight not less than 6¼ pounds nor more than 150 pounds.

(3) Bundles of metal kegs, spec. 13 (§ 178.140 of this subchapter), firmly tied together with rope and wrapped in strong burlap, canvas, or similar material, securely sewed and roped, authorized. Net weight of powder must not exceed 100 pounds.

(4) Spec. 14, 15A, or 16A (§§ 178.165, 178.168, or 178.185 of this subchapter). Wooden boxes with inside containers which must be spec. 13 (§ 178.140 of this subchapter), metal kegs, or fiber or metal containers not over 1½ pounds capacity each, or cotton bags of at least 4 ounce cotton duck not over 25 pounds capacity

each. The gross weight of spec. 14 boxes not to exceed 140 pounds and the gross weight of spec. 15A or 16A boxes not to exceed 200 pounds.

(5) Spec. 14, 15A, or 16A (§§ 178.165, 178.168, or 178.185 of this subchapter). Wooden boxes with inside cylindrical fiber cartridges not over 5 inches diameter nor over 18 inches long with fiber at least 0.05 inch thick paraffined on outer surface with joints securely glued or cemented, or strong paraffined paper cartridges not over 12 inches long authorized only for compressed pellets (cylindrical block) ⅞ inch or more in diameter. Boxes must be completely lined with strong paraffined paper or other suitable waterproofed material without joints or other openings at the bottom or sides. Authorized gross weight not to exceed 75 pounds.

(6) Spec. 12H, 23F, or 23H (§§ 178.209, 178.214, or 178.219 of this subchapter). Fiberboard boxes with inside cylindrical fiber cartridges not over 5 inches diameter nor over 18 inches long with fiber at least 0.05 inch thick paraffined on outer surface with joints securely glued or cemented, or strong paraffined paper cartridges not over 12 inches long authorized only for compressed pellets (cylindrical block) ⅞ inch or more in diameter. Authorized gross weight not to exceed 65 pounds.

(b) Black powder (not low explosives) in addition to containers specified in paragraph (a) of this section, must be shipped in containers complying with the following specifications:

(1) Spec. 14, 15A, or 16A (§§ 178.165, 178.168, or 178.185 of this subchapter). Wooden boxes with inside containers which must be cloth or paper bags of capacity not exceeding 25 pounds net weight, provided the completed shipping package shall be capable of standing a drop of 4 feet without rupture of inner or outer containers. The completed package must not exceed 50 pounds, net weight of black powder.

(2) Spec. 12H, 23F, or 23H (§ 178.209, 178.214, or 178.219 of this subchapter). Fiberboard boxes with inside containers which must be cloth, paper, or securely closed polyethylene bags constructed of material not less than 0.004 inch thick of capacity not exceeding 25 pounds net weight for cloth or paper bags and not exceeding 50 pounds net weight for polyethylene bags, or inside fiber or metal containers having not over 1 pound capacity each, provided the completed shipping package shall be capable of withstanding a drop of 4 feet without rupture of inner or outer containers. The tubes of the box may be eliminated and a single tube as specified in spec. 23F (§ 178.214 of this subchapter) may be substituted. The completed package shall not contain more than 50 pounds net weight of black powder.

(3) Spec. 17E (§ 178.116 of this subchapter). Metal drums (single-trip), not over 5 gallons capacity each, without opening except bunghole not exceeding 2.3 inches in diameter. Authorized for carload or truckload shipments only.

(c) Black pellet powder primed with an electric squib secured inside the coaxial hole of the pellet powder with loose ends of the wires of the squib effectively short-circuited may be shipped in containers complying with the following specifications:

(1) Spec. 14, 15A, or 16A (§§ 178.165, 178.168 or 178.185 of this subchapter). Wooden boxes with inside cartridges which must be strong paraffined paper cartridges not over 12 inches long authorized only for compressed pellets (cylindrical block) ⅞ inch or more in diameter. Boxes must be lined as prescribed for cylindrical fiber cartridges. Gross weight not to exceed 65 pounds.

(d) Low explosives (not black powder) may in addition to the containers specified in paragraph (a) of this section, be shipped in containers complying with the following specifications:

(1) Spec. 14, 15A, or 16A (§§ 178.165, 178.168, or 178.185 of this subchapter). Wooden boxes with inside containers which must be strong paper bags of capacity not exceeding 25 pounds. Gross weight of spec. 14 box must not exceed 140 pounds. Gross weight of spec. 15A or 16A box must not exceed 200 pounds.

(2) Spec. 12H, 23F, or 23H (§ 178.209, § 178.214 or § 178.219 of this subchapter). Fiberboard boxes with inside containers which must be strong paper bags of capacity not exceeding 25 pounds. Gross weight must not exceed 65 pounds.

(3) Spec. 15A (§ 178.168 of this subchapter). Wooden boxes, lined, spec. 2L (§ 178.30 of this subchapter). Authorized only for low explosives in the form of hard nonplastic rods or cylinders not less than ⅝-inch diameter.

(e) Each outside package must be plainly marked, stamped, or stenciled "BLACK POWDER" or "LOW EXPLOSIVES," and may also show "BLASTING," "RIFLE," etc., as "BLACK BLASTING POWDER," "BLACK RIFLE POWDER," "LOW BLASTING EXPLOSIVE" or "BLACK PELLET POWDER," as the case may be.

(1) Inside containers of over 1½ pounds capacity each in boxes, must be packed with filling holes up, and the boxes must be marked on top "THIS SIDE UP."

[29 FR 18683, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173-81, 39 FR 17315, May 15, 1974; Amdt. 173-94, 41 FR 16065, Apr. 15, 1976]

§ 173.61 High explosives.

(a) High explosives (dynamite), except gelatin dynamite, when offered for transportation by rail freight or highway must not contain in excess of 60 percent of liquid explosive ingredient and when offered for transportation by carrier by water must not contain in excess of 75 percent of liquid explosive ingredient. Maximum limit of liquid explosive ingredient specified for transportation by carrier by water applies only for such explosives as consist principally of wood pulp or other satisfactory absorbent and liquid explosive, which are comparable with good commercial dynamite under tests as to leakage of liquid ingredient and sensitiveness to the shocks of transportation, and for shipments that are otherwise in compliance with the regulations in Parts 170-189 of this subchapter, for the transportation of high explosives.

(b) High explosives consisting of a liquid mixed with an absorbent material must have the absorbent (wood pulp or similar material) in sufficient quantity and of satisfactory quality, properly dried at the time of mixing; nitrate of soda must be dried at the time of mixing to less than 1 percent of moisture; and the ingredients must be uniformly mixed so that the liquid will remain thoroughly absorbed under the most unfavorable conditions incident to transportation.

(c) High explosives containing nitroglycerin or other liquid explosive ingredients must have uniformly mixed with an absorbent material a satisfactory antacid, which must be in quantity sufficient to have the acid neutralizing power of an amount of magnesium carbonate equal to 1 percent of the nitroglycerin or other liquid explosive ingredient.

(d) Cartridges shall consist of a column of explosives completely inclosed in a shell made of strong paper or polyethylene or a combination of paper and polyethylene, so treated that it will not absorb the liquid ingredient of the explosive.

(e) Bags shall be made of strong paper or equally efficient material so treated or of such nature that it will not absorb the liquid ingredient of the explosive.

(f) All boxes in which high explosives are packed must be lined with strong paraffined paper or other suitable material, except as provided in paragraph (j) of this section, § 173.64 (a) (5), and § 173.65 (a) (5). Lining must be without joints or other openings or with cemented joints at the bottom, ends or sides of boxes, and for explosives with liquid ingredients must be impervious to such ingredient and also to water. Covers of boxes must be protected from contact with explosives by lining paper or other suitable material. (See spec. 2L (§ 178.30 of this subchapter), for authorized lining material.)

(g) Before cartridges or bags of gelatin explosives are packed in boxes, lined in accordance with paragraph (f) of this section, dry fine wood pulp or sawdust at least ¼ inch in depth must be spread over the bottom of box or bottom of box may have a full area pad formed of absorptive cellulose sheet having nitroglycerin absorptive value equivalent to sawdust as specified; similar materials are required in boxes for packing all non-gelatinous types of explosives containing 30 percent or more liquid explosive ingredient.

(h) Except for cartridges containing gelatin dynamite, all cartridges of high explosives exceeding 4 inches in length and containing more than 10 percent of a liquid explosive ingredient must be placed horizontally in boxes. Bags must be packed with their filling holes up.

(i) Movement of cartridges and bags of high explosives within the boxes shall be prevented by sufficiently tight packing.

(j) High explosives (dynamite), except gelatin dynamite, packed in bags or in cartridges in excess of 2 inches in diameter and containing not more than 30 percent liquid explosive ingredients may be packed in outside containers without sawdust and without lining paper provided either each inside or outside container is sift-proof and is so treated as to prevent penetration by the commodity with which the container is filled for shipping.

[29 FR 18683, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967 and amended by, Amdt. 173-94, 41 FR 16065, Apr. 15, 1976]

§ 173.62 High explosives, liquid.

(a) Liquid explosives as defined in § 173.53(e) must be packed in specification containers as follows:

(1) Spec. 15L (§ 178.176 of this subchapter). Wooden boxes which must be plainly marked on top and on one side or end "HIGH EXPLOSIVES—DANGEROUS" in letters not less than $\frac{7}{16}$ inch in height. The tops of boxes must be marked "THIS SIDE UP".

(2) Spec. 15M (§ 178.177 of this subchapter.) Wooden boxes. Metal inside containers shall contain not more than 10 quarts liquid explosives each. Boxes must be plainly marked on top and on one side or end "HIGH EXPLOSIVES—DANGEROUS" in letters not less than $\frac{7}{16}$ inch in height. The tops of boxes must be marked "THIS SIDE UP".

(3) Spec. MC-200 (§ 178.315 of this subchapter). Motor vehicle container.

[29 FR 18683, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16065, Apr. 15, 1976]

§ 173.63 High explosive with liquid explosive ingredient.

(a) High explosives (dynamite) containing not more than 30 percent liquid explosive ingredients must be prepared as prescribed in § 173.61, except as otherwise specified, and packed in containers complying with the following specifications:

(1) Spec. 23G (§ 178.218 of this subchapter.) Fiberboard boxes. Not more than one cartridge in each box. High explosives packed in boxes consisting of more than one tube joined circumferentially are exempt from the requirements of § 173.61 (f) and (g). High explosives packed in boxes consisting of one tube closed at the ends are exempt from the requirements of § 173.61 (d), (f), and (g). Gross weight of boxes not to exceed 65 pounds.

(2) Spec. 14, 15A, or 16A (§ 178.165, § 178.168, or § 178.185 of this subchapter). Wooden boxes, or spec. 12H, 23F, or 23H (§ 178.209, § 178.214, or § 178.219 of this subchapter) fiberboard boxes, with inside containers which must be cartridges not exceeding 12 inches in diameter or 50 pounds in weight with length not to exceed 36 inches, or bags not exceeding 50 pounds each securely closed so as to prevent leakage therefrom. Gross weight of wooden boxes not to exceed 75 pounds and gross weight of fiberboard boxes not to exceed 65 pounds.

(3) Spec. 23F or 23H (§ 178.214 or § 178.219 of this subchapter). Fiberboard boxes having one inside 26-gauge metal container, measuring not over 8 inches in diameter and 31 inches long, containing high explosives (ammonium dynamite core) surrounded by nitrocarbonitrate. Authorized gross weight not to exceed 65 pounds.

(b) High explosives (dynamite) containing 10 percent or less of a liquid explosive ingredient in cartridges or bags as prescribed in § 173.61 (d) and (e) may be packed in wooden boxes, spec. 14, 15A, or 16A (§ 178.165, § 178.168, or § 178.185 of this subchapter), gross weight not to exceed 140 pounds, or fiberboard boxes, spec. 12H, 23F, or 23H (§ 178.209, § 178.214, or § 178.219 of this subchapter), gross weight not to exceed 65 pounds.

(1) High explosives (dynamite) containing 10 percent or less of a liquid explosive ingredient may be packed in fiberboard boxes, spec. 23G (§ 178.218 of this subchapter). Not more than one cartridge in each box. High explosives packed in boxes consisting of more than one tube joined circumferentially are exempt from the requirements of § 173.61 (f) and (g). High explosives packed in boxes consisting of one tube closed at the ends are exempt from the requirements of § 173.61 (d), (f), and (g). Gross weight of boxes not to exceed 65 pounds.

(c) High explosives (dynamite) containing more than 30 percent liquid explosive ingredients must be prepared as prescribed in § 173.61 (a) to (i), inclusive, except as otherwise specified, and in containers complying with the following specifications:

(1) Spec. 14, 15A, or 16A (§§ 178.165, 178.168, or 178.185 of this subchapter) wooden boxes or spec. 12H, 23F, or 23H (§§ 178.209, 178.214, or 178.219 of this subchapter) fiberboard boxes. Inside containers must consist of:

(i) Cartridges not exceeding 4 inches in diameter and not exceeding 8 inches in length.

(ii) Cartridges exceeding 4 inches in diameter and not exceeding 5 inches in diameter and between 8 inches and not exceeding 10 inches in length must be redipped in melted paraffin or equivalent material.

(iii) Two or more cartridges that must be redipped because of their size may be enclosed in another strong paper shell to form a completed cartridge not exceeding 30 inches in length. The resulting cartridge must be dipped in melted paraffin or equivalent material.

(iv) Gross weight of wooden boxes not to exceed 75 pounds and gross weight of fiberboard boxes not to exceed 65 pounds.

(2) Spec. 14, 15A, or 16A (§ 178.165, § 178.168, or § 178.185 of this subchapter) wooden boxes, or spec. 12H, 23F, or 23H (§ 178.209, § 178.214, or § 178.219 of this subchapter), fiberboard boxes, with inside containers which must be paraffined two-ply paper bags not exceeding 12½ pounds capacity, securely closed by folding the tops and securing the fold by tape, with not more than two such bags inserted into another two-ply paper bag which must be securely closed and dipped in paraffin after closing, or with not more than two inside containers which must be securely closed polyethylene bags not less than 0.004 inch in thickness of not more than 12½ pounds capacity each packed in a securely closed polyethylene or paper bag and packed in polyethylene lined outside fiberboard boxes. Gross weight of wooden boxes not to exceed 75 pounds and gross weight of fiberboard boxes not to exceed 65 pounds.

(d) High explosives (gelatin dynamite and blasting gelatin) must be prepared as prescribed in § 173.61 (a) to (i) inclusive, except as otherwise specified, and in containers complying with the following specifications:

(1) Spec. 23G (§ 178.218 of this subchapter). Fiberboard boxes. Not more than one cartridge in each box. High explosives packed in boxes consisting of more than one tube joined circumferentially are exempt from the requirements of § 173.61 (f) and (g) or when packed in boxes consisting of one tube closed at the ends are exempt from the requirements of § 173.61 (d) to (g), inclusive. Gross weight of boxes not to exceed 65 pounds.

(2) Spec. 14, 15A, or 16A (§ 178.165, § 178.168, or § 178.185 of this subchapter). Wooden boxes, or spec. 12H, 23F, or 23H (§ 178.209, § 178.214, or § 178.219 of this subchapter), fiberboard boxes, with inside containers which must be cartridges not exceeding 12 inches in diameter or 50 pounds in weight with length not to exceed 36 inches, or bags not exceeding 12½ pounds each. Bags if not completely sealed against leakage by method of closure must be packed with filling holes up. Gross weight of wooden boxes not to exceed 75 pounds and gross weight of fiberboard boxes not to exceed 65 pounds.

(3) High explosives (gelatin dynamite or blasting gelatin) may be shipped in a package consisting of not more than 6 cartridges of such explosives, each not exceeding 32 inches in length or 5 inches in diameter, cartridged with heavy paper in such manner as to have the approximate strength of a spec. 23G (§ 178.218 of this subchapter) container, which cartridges shall in turn be placed in a 10-ply paper tube not exceeding 11 feet in length. The outer paper tube must be equipped with a metal cone or equally efficient device on one end which shall serve to close that end of the tube and to the metal cone shall be affixed a wire threaded through fiber tubes running through the center of each of the 6 cartridges; or as an alternative to the single wire running through the cartridges in the outer tube at the center, two wires may be applied, one on each side of the cartridges and between the outside of the cartridges and the inside of the outer tube. In either event, cartridges and the outer tube shall be securely closed so as

to prevent spilling of any loose explosive under any conditions normally incident to transportation and cartridges shall be so loaded and stayed within the car or motor vehicle as to prevent damage to individual containers. The total gross weight of each completed package shall not exceed 125 pounds. Shipments are authorized in carload or truckload lots only without transfer of packages other than such transfers as may be necessary in the event of mechanical failure of the car or vehicle in which originally loaded.

(e) High explosives (straight gelatin dynamites of 80 percent strength and over and blasting gelatin) must be packed in cartridges or in bulk in outside boxes. When packed in bulk in boxes double lining paper throughout must be used. Containers must comply with the following specifications:

(1) Spec. 14, 15A, or 16A (§§ 178.165, 178.168, or 178.185 of this subchapter). Wooden boxes.

(2) Spec. 12H, 23F, 23G, or 23H (§ 178.209, § 178.214, § 178.218, or § 178.219 of this subchapter). Fiberboard boxes. Spec. 23G must be packed in an outer container consisting of at least 7-ply heavy Kraft paper (see § 173.25 for additional required marking).

(3) Gross weight of wooden boxes not to exceed 75 pounds. Gross weight of fiberboard boxes not to exceed 65 pounds.

(f) Boxes containing high explosives must be plainly marked on top and on one side or end, except those made in compliance with spec. 23G which must be marked on the side or end, and kegs, drums, or barrels containing high explosives must be marked on both ends "HIGH EXPLOSIVES—DANGEROUS" in letters not less than 7/16 inch in height. The tops of boxes except those made in compliance with spec. 23G, must be marked "THIS SIDE UP".

[29 FR 18683, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16065, Apr. 15, 1976]

§ 173.64 High explosives with no liquid explosive ingredient and propellant explosives, Class A.

(a) High explosives containing no liquid explosive ingredients if their sensitiveness to percussion is not greater than that measured by the blow delivered by an 8-pound weight dropping from a distance of 7 inches on a compressed pellet of the explosive three-hundredths of an inch thick and two-tenths of an inch in diameter, confined rigidly between hard steel surfaces as in the standard Impact Testing Apparatus of the Bureau of Explosives, must be packed in cartridges or in bags in outside boxes. They must be packed in cartridges when their sensitiveness is greater than the limit prescribed herein. Such explosives when dry may be packed in strong sift-proof cloth or paper bags of capacity not exceeding 25 pounds. These explosives must be packed in outside containers complying with the following specifications:

(1) Spec. 14, 15A, or 16A (§§ 178.165, 178.168, or 178.185 of this subchapter). Wooden boxes.

(2) Spec. 12H, 23F, or 23H (§ 178.209, § 178.214, or § 178.219 of this subchapter). Fiberboard boxes.

(3) [Reserved]

(4) Gross weight of wooden boxes not to exceed 140 pounds. Gross weight of fiberboard boxes not to exceed 65 pounds.

(5) When such explosives contain over 5 percent moisture, boxes must be lined with strong paraffined paper or other authorized material, spec. 2L (§ 178.30 of this subchapter).

(6) When such explosives are in combination cartridges, consisting of column of explosives with core of dynamite, they may be shipped when packed in outside boxes with 65 pounds as the maximum gross weight. The column of explosives must be completely inclosed in waterproofed cloth or strong waterproofed paper and must not exceed 6 inches in diameter, 20 inches in length, or gross weight of 25 pounds.

(7) Spec. 23G (§ 178.218 of this subchapter). Fiberboard boxes. Such explosives when packed in boxes consisting of more than one tube joined circumferentially are exempt from requirements of § 173.61 (f) and (g) or when packed in boxes consisting of one tube closed at the ends are exempt from requirements of § 173.61 (d) to (g) inclusive. The gross weight of boxes not to exceed 65 pounds.

(b) Boxes containing high explosives must be plainly marked on top and on one side or end, except those made in compliance with spec. 23G which must be marked on the side or end, and kegs, drums, or barrels containing high explosives must be marked on both ends "HIGH EXPLOSIVES—DANGEROUS" in letter not less than 7/16 inch in height.

(c) [Reserved]

(d) Propellant explosives, class A must be packed in containers as prescribed in § 173.93. Each outside container must be plainly marked "PROPELLANT EXPLOSIVES, CLASS A".

[29 F.R. 18683, Dec. 29, 1964, as amended by Amdt. 173-54, 36 FR 18469, Sept. 15, 1971; Amdt. 173-81, 39 FR 17315, May 15, 1974; Amdt. 173-94, 41 FR 16065, Apr. 15, 1976]

§ 173.65 High explosives with no liquid explosive ingredient nor any chlorate.

(a) High explosives containing no liquid explosive ingredient nor any chlorate if their sensitiveness to percussion is not greater than that measured by the blow delivered by an 8-pound weight dropping from a distance of 7 inches on a compressed pellet of the explosive three-hundredths of an inch thick and two-tenths of an inch in diameter, confined rigidly between hard steel surfaces as in the standard Impact Testing Apparatus of the Bureau of Explosives, must be packed in cartridges, or in bags or metal containers in outside boxes, except that the requirement of packaging in cartridges, bags or metal containers does not apply to plastic-bonded explosives, but they must be packed and cushioned so as to prevent movement of individual pieces within the outside shipping container. They must be packed in cartridges when their sensitiveness is greater than the limit prescribed in this section. Such explosives when dry may be packed in strong sift-proof bags securely closed so as to prevent leakage therefrom or metal containers of capacity not exceeding 60 pounds. These explosives must be packed in outside containers complying with the following specifications:

(1) Spec. 14, 15A, or 16A (§§ 178.165, 178.168, or 178.185 of this subchapter). Wooden boxes.

NOTE 1: Wooden boxes, having inside metal containers which are tightly and securely closed, may be equipped with hand holes in each end which must be not more than one inch by four inches and centered laterally not nearer than 1⅝ inches from top edge of end of box.

(2) Spec. 12H, 23F, or 23H (§ 178.209, § 178.214, or § 178.219 of this subchapter). Fiberboard boxes.

(3) [Reserved]

(4) Gross weight of wooden boxes not to exceed 140 pounds. Gross weight of fiberboard boxes not to exceed 65 pounds.

(5) When such explosives contain over 5 percent moisture, boxes must be lined with strong paraffined paper or other authorized material, spec. 2L (§ 178.03 of this subchapter).

(6) When such explosives are in combination cartridges, consisting of column of explosives with core of dynamite, they may be shipped when packed in outside boxes with 65 pounds as the maximum gross weight. The column of explosives must be completely inclosed in waterproofed cloth or strong waterproofed paper and must not exceed 6 inches in diameter, 20 inches in length, or gross weight of 25 pounds.

(7) Spec. 23G (§ 178.218 of this subchapter) Fiberboard boxes. Such explosives when packed in boxes consisting of more than one tube joined circumferentially are exempt from requirements of § 173.61 (f) and (g) or when packed in boxes consisting of one tube closed at the ends are exempt from requirements of § 173.61 (d) to (g) inclusive. The gross weight of boxes not to exceed 65 pounds.

(b) Amatol consisting of 80 percent ammonium nitrate and 20 percent trinitrotoluene, ammonium picrate, nitroguanidine, nitrourea, urea nitrate, picric acid, tetryl, trinitroresorcinol, trinitrotoluene, pentolite, cyclotrimethylenetrinitramine (desensitized), and soda amatol, in dry condition, in addition to containers prescribed in paragraphs (a) (1) to (5) and (7) of this section, may be shipped in containers complying with the following specifications:

(1) Spec. 14, 15A, or 16A (§§ 178.165, 178.168, or 178.185 of this subchapter). Wooden boxes with strong paper or cloth bags of capacity not exceeding 50 pounds, packed with filling holes up.

(2) Spec. 21C (§ 178.224 of this subchapter). Fiber drums. Net weight not to exceed 200 pounds.

(c) Trinitrotoluene and pentolite, in dry condition, in addition to containers prescribed in paragraphs (a), (1) to (5) and (b) (1) and (2) of this section, may be shipped in specification containers as follows:

(1) Spec. 14, 15A, or 16A (§§ 178.165, 178.168, or 178.185 of this subchapter). Wooden boxes with strong paper or cloth bags of capacity not exceeding 100 pounds, packed with filling holes up.

(2) Spec. 14, 15A, or 16A (§§ 178.165, 178.168 or 178.185 of this subchapter). Wooden boxes with strong siftproof liners, spec. 2L (§ 178.30 of this subchapter).

(d) The following materials may be shipped dry, in quantities not exceeding 4 ounces in one outside package, by rail freight, or highway, as drugs, n.o.s., or medicines, n.o.s., without any other requirements when in securely closed bottles or jars cushioned to prevent breakage:

(1) Ammonium picrate.
(2) Dipicrylamine.
(3) Dipicryl sulfide.
(4) Dinitrophenylhydrazine.
(5) Nitroguanidine.
(6) Picramide.
(7) Picric acid.
(8) Picryl chloride.
(9) Trinitroanisole.
(10) Trinitrobenzene.
(11) Trinitrobenzoic acid.
(12) Trinitro-m-cresol.
(13) Trinitronaphthalene.
(14) Trinitroresorcinol.
(15) Trinitrotoluene.
(16) Urea nitrate.

(e) Ammonium picrate, cyclotrimethylenetrinitramine, pentaerythrite tetranitrate (desensitized), picric acid, trinitrobenzene, trinitrobenzoic acid, trinitroresorcinol, trinitrotoluene, or urea nitrate, when wet with not less than 10 pounds of water to each 90 pounds of dry material must be shipped in packagings as follows:

(1) [Reserved]

(2) (See § 173.192 for shipments of wet ammonium picrate, wet picric acid, wet trinitrobenzoic acid, and wet urea nitrate not in excess of 16 ounces and § 173.193 for shipments of wet picric acid, wet trinitrohenzoic acid, and wet urea nitrate not in excess of 25 pounds.) (See § 173.212 for shipments of wet trinitrobenzene and wet trinitrotoluene not in excess of 16 ounces.)

(3) Spec. 5B (§ 178.82 of this subchapter) metal barrels or drums or Spec. 21C (§ 178.224 of this subchapter) fiber drums. Authorized only for cyclotrimethylene-trinitramine wet with not less than 10 pounds of water to each 90 pounds of dry material in inside containers which must be bags made of at least 10-ounce cotton duck, rubber or rubberized cloth and securely closed. The dry weight of cyclotrimethylenetrinitramine in one metal barrel or drum must not exceed 300 pounds and not more than 225 pounds in fiber drums. These bags containing the cyclotrimethylenetrinitramine must then be placed in a rubber bag, rubberized cloth bag or bag made of suitable water-tight material which must be securely closed and then placed in the drum. If shipment of cyclotrimethylenetrinitramine is to take place at a time freezing weather is to be anticipated, it must be wet with a mixture of denatured ethyl alcohol or other suitable anti-freeze and water of such proportions that freezing will not occur in transit.

(4) Specification 21C (§ 178.224 of this subchapter). Fiber drum with an inside polyethylene bag having 0.004 inch minimum thickness and liquid-tight closure. Net weight not to exceed 200 pounds. Authorized only for wet desensitized pentaerythrite tetranitrate.

(f) Amatol when cast or pressed in a block or column, in addition to the containers prescribed in paragraphs (a) (1) to (5) and (7) of this section, may be shipped in specification containers as follows:

(1) Spec. 13A (§ 178.141 of this subchapter). Metal drums not exceeding 90 pounds gross weight.

(g) Nitrocellulose must be packed in wooden boxes complying with specs. 14, 15A, or 16A (§§ 178.165, 178.168, or 178.185 of this subchapter), with inside packages which must be:

(1) Inside packages containing not more than 1 pound each of dry, uncompressed nitrocellulose, wrapped in strong paraffined paper or suitable sparkproof material. Completed outside package not to contain more than 10 pounds dry nitrocellulose.

(2) Inside packages containing compressed sticks or blocks of dry nitrocellulose wrapped in strong paraffined paper. Gross weight not to exceed 75 pounds.

(h) Shaped charges, commercial, having exposed lined conical cavities must have such cavities effectively filled; those having conical cavities that are covered shall be paired together with the cavities facing each other and with one or more pairs in a fiber tube, or so arranged that the conical cavities of the shaped charges at the ends of the column face toward the center of the tube. The shaped charges in the fiber tubes must fit snugly with no excess space and the fiber tubes containing the shaped charges must be packed snugly with no excess space in the outside containers. Other methods of packaging for devices of which shaped charges are a component part may be employed when approved by the Bureau of Explosives. Shaped charges, commercial, must be packed in specification containers as follows:

(1) Spec. 14, 15A, or 16A (§§ 178.165, 178.168 or 178.185 of this subchapter). Wooden boxes. Gross weight not to exceed 140 pounds.

(2) Spec. 12H, 23F, or 23H (§ 178.209, § 178.214, or § 178.219 of this subchapter). Fiberboard boxes. Gross weight not to exceed 65 pounds.

(3) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes which must be manufactured of at least 275-pound strength (Mullen or Cady test) double-wall corrugated fiberboard and shall be provided with double-faced corrugated lining board (see § 178.205-15 of this subchapter) having minimum strength (Mullen or Cady test) of 200 pounds. Individual charges of explosives shall be packed in inside securely closed, waterproof plastic containers, or in securely closed waterproof fiberboard containers having metal ends. Gross weight not to exceed 65 pounds. Inside individual containers shall be separated by means of double-faced corrugated fiberboard partitions of material not less than 175-pound Mullen or Cady test.

(i) Cyclotrimethylenetrinitramine (desensitized) in pellet form, dry, in addition to provisions of paragraphs (a) and (b) of this section may be packed in specification containers as follows:

(1) Spec. 15A (§ 178.168 of this subchapter). Wooden boxes. For pellets ¼ inch or less in diameter; pellets must be packed in a slide-type fiber carton with perforated fillers. All openings of the fiber carton shall be securely closed with pressure-sensitive tape. Inside containers shall be cushioned with at least 2 inches of sawdust between inner containers and outside box. No inside container shall contain more than one-half pound net weight of explosive composition and not more than 10 pounds net weight of explosive composition shall be packed in one outside box.

(2) Spec. 15A (§ 178.168 of this subchapter). Wooden boxes. For pellets exceeding ¼ inch in diameter; pellets must be packed in a fiber tube with positive closures at both ends, which shall be packed in a fiber carton having not more than one-half pound net weight of explosive composition. Fiber carton shall be cushioned with not less than 2 inches of sawdust in the outside box. Not more than 10 pounds net weight of explosive composition shall be packed in one outside box.

(j) Boxes containing high explosives must be plainly marked on top and on one side or end, except those made in compliance with spec. 23G (§ 178.218 of this subchapter) which must be marked on the side or end, and kegs, drums, or barrels containing high explosives must be marked on both ends "HIGH EXPLOSIVES—DANGEROUS" in letters not less than 7/16 inch in height. When space will not permit such marking on ends of kegs or drums, it may be applied to the side of the container. The tops of boxes, except those referred to in paragraph (a) (1) to (7) of this section, must be marked "THIS SIDE UP".

[29 FR 18683, Dec. 29, 1964, as amended by Amdt. 173-57, 36 FR 21287, Nov. 5, 1971; Amdt. 173-81, 39 FR 17315, May 15, 1974; Amdt. 173-94, 41 FR 16065, Apr. 15, 1976]

§ 173.66 Blasting caps, blasting caps with safety fuse, blasting caps with metal clad mild detonating fuse, and electric blasting caps.

(a) Blasting caps, blasting caps with safety fuse, blasting caps with metal clad mild detonating fuse, or electric blasting caps, in quantity of 1,000 or less, are classified as class C explosives. See § 173.103.

(b) The outside of all blasting caps and electric blasting caps must be free from fulminate or other explosive compositions.

(c) Blasting caps containing not to exceed 50 grains of explosive composition each must be placed in strong interior containers, in which they must fit snugly. When caps are loaded vertically in interior metal containers, they must be covered by suitable elastic material placed over the caps. Not more than 100 such blasting caps may be packed in a single container. All inside containers must then be packed snugly in cartons or wrappings made of paper or pasteboard.

(d) Not more than 5,000 blasting caps, not exceeding 50 grains of explosive composition each, packed in inner containers as prescribed in paragraph (c) of this section, must be packed in outside containers complying with the following specifications:

(1) Spec. 14, 15A, or 16A (§ 178.165, § 178.168, or § 178.185 of this subchapter). Wooden boxes (see § 173.67(a)(1) Note 1) or spec. 12H, 23F, or 23H (§ 178.209, § 178.214, or § 178.219 of this subchapter), fiberboard boxes, with inside containers which must be cartons or wrappings with inside containers as prescribed in paragraph (c) of this section, which must be separated from the outside box by at least one inch of tightly packed sawdust, excelsior, or equivalent cushioning material. Gross weight not to exceed 150 pounds.

(e) More than 5,000 blasting caps, not exceeding 50 grains of explosive composition each, packed in inner containers as prescribed in paragraph (c) of this section, must be packed in outside containers complying with the following specifications:

(1) Spec. 14, 15A, or 16A (§ 178.165, § 178.168, or § 178.185 of this subchapter). Wooden boxes (see § 173.67(a)(1) Note 1) or spec. 12H, 23F, or 23H (§ 178.209, § 178.214, or § 178.219 of this subchapter), fiberboard boxes, with inside containers which must be cartons or wrappings with inner containers as prescribed in paragraph (c) of this section, packed in an inside box made of sound lumber, a hermetically sealed metal box of metal not less than 30 gauge United States standard, or a sealed package made of 6-ply Sisalkraft Asphalt Laminated sheeting, or its equivalent; Asphalt Laminated sheeting shall consist of 2 plies of strong fibers, 2 plies of pliable asphalt, and 2 plies of protective cover. The minimum tensile strength shall be 20 pounds per inch width in each direction. The laminated sheet shall have a minimum water resistance of 24 hours and a maximum water permeability of 4 grams per square meter per 24 hours. The inside wooden box, metal box, or sealed package must be separated at all points from the outside box by at least one inch of tightly packed sawdust, excelsior, or equivalent cushioning material. Gross weight not to exceed 150 pounds.

(2) More than 20,000 blasting caps containing not to exceed 50 grains of explosive composition each, must not be placed in one outside package.

(f) Blasting caps containing in excess of 50 grains of explosive composition each must be packed in containers complying with the following specifications:

(1) Spec. 14, 15A, or 16A (§§ 178.165, 178.168, or 178.185 of this subchapter). Wooden boxes (see § 173.67 (a) (1), Note 1) with inside containers which must have strong interior containers, in which they must fit snugly. When caps are loaded vertically in interior metal containers, they must be covered by suitable elastic material placed over the caps. Not more than 10 such blasting caps may be packed in a single inside container. All inside containers must then be packed snugly in cartons or wrappings made of paper or pasteboard. The cartons or wrappings must be separated from outside box by at least 1 inch of tightly packed sawdust, excelsior, or equivalent cushioning material. Not more than 500 caps containing in excess of 50 grains of explosive composition each may be placed in one outside package. Gross weight not to exceed 150 pounds.

(g) Electric blasting caps must be packed in containers complying with the following specifications:

(1) Spec. 14, 15A, or 16A (§§ 178.165, 178.168, or 178.185 of this subchapter). Wooden boxes (see § 173.67(a)(1), Note 1) or spec. 12H, 23F, or 23H (§§ 178.209, 178.214, or 178.219 of this subchapter), fiberboard boxes, with inside containers which must be pasteboard cartons containing not more than 100 caps each, or pasteboard tube inclosing each cap with wires or with the wires wrapped around the tube. Gross weight of 103 pounds authorized for spec. 12H boxes when constructed of 350-pound test corrugated fiberboard in accordance with § 178.209-8(a)(3) of this subchapter. Gross weight of wooden boxes containing pasteboard cartons or caps with wires 30 feet or more in length in pasteboard tubes must not exceed 150 pounds, except for export shipment. Gross weight of wooden boxes containing caps with wires less than 30 feet in length in pasteboard tubes must not exceed 75 pounds.

(h) Each outside container must be plainly marked "(number) BLASTING CAPS—HANDLE CAREFULLY", or "(number) ELECTRIC BLASTING CAPS—HANDLE CAREFULLY", as the case may be.

NOTE 1: The number of caps must be shown in the marking.

[29 FR 18671, Dec. 29, 1964, as amended by Order 71, 31 FR 9069, July 1, 1966. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16065, Apr. 15, 1976]

§ 173.67 Blasting caps with safety fuse and blasting caps with metal clad mild detonating fuse.

(a) Ten or less of the interior containers of not more than 100 blasting caps each, containing not to exceed 50 grains of explosive composition each, packed as prescribed in § 173.66(c), in the same outside container with safety fuse or metal clad mild detonating fuse, must be shipped in containers complying with the following specifications:

(1) Spec. 14, 15A, or 16A (§ 178.165, § 178.168, or § 178.185 of this subchapter). Wooden boxes (see Note 1 of this paragraph) or spec. 12H, 23F, or 23H (§ 178.209, § 178.214, or § 178.219 of this subchapter), fiberboard boxes, with inside containers which must be cartons or wrappings with inner containers as prescribed in § 173.66(c), placed in the center of a coil of fuse and secured and cushioned therein to prevent movement therefrom. Gross weight not to exceed 150 pounds.

NOTE 1: Closing of outside boxes by nailing tops in place with uncoated nails, at not over 3-inch centers into ends, and at not over 6-inch centers into sides, is authorized. Sizes of these nails must be not less than the following:

3-penny into ends and sides not over ⅜ inch thick.

4-penny into ends and sides over ⅜ but not over ½ inch thick.

5-penny into ends and sides over ½ but not over ⅝ inch thick.

6-penny into ends and sides over ⅝ but not over 13/16 inch thick.

7-penny into ends and sides over 13/16 inch thick.

(b) Each outside container must be plainly marked "(number) BLASTING CAPS WITH SAFETY FUSE—HANDLE CAREFULLY" or "(number) BLASTING CAPS WITH METAL CLAD MILD DETONATING FUSE—HANDLE CAREFULLY," as the case may be.

[29 CFR 18683, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16065, Apr. 15, 1976]

§ 173.68 Detonating primers.

(a) Detonating primers must be packed in containers complying with the following specifications:

(1) Spec. 14, 15A, or 16A (§ 178.165, § 178.168, or § 178.185 of this subchapter). Wooden boxes (see § 173.67(a)(1) Note 1) or spec. 12H, 32F, or 23H (§ 178.209, § 178.214, or § 128.219 of this subchapter), fiberboard boxes, with inside containers which must be pasteboard cartons containing not more than 50 primers each, or pasteboard or plastic tube inclosing each primer with wires, or pasteboard, wooden, metal, or plastic tubes or spools with wires wrapped around the tube or spool. Gross weight of wooden boxes containing pasteboard cartons must not exceed 150 pounds, except for export shipment. Gross weight of wooden boxes containing pasteboard or plastic tube inclosing each primer with wires, or pasteboard, wooden, metal, or plastic tubes or spools with the wires wrapped around the tube or spool must not exceed 75 pounds.

(b) Each outside container must be plainly marked "DETONATING PRIMERS—HANDLE CAREFULLY".

[29 FR 18683, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, as amended by Amdt. 173-94, 41 FR 16065, Apr. 15, 1976]

§ 173.69 Detonating fuzes, Class A, with or without radioactive components, detonating fuze parts containing an explosive, boosters, bursters, or supplementary charges.

(a) Detonating fuzes, class A with or without radioactive components, detonating fuze parts containing an explosive, boosters, bursters, or supplementary charges, when shipped not assembled in projectiles, bombs, etc., must be packed and well secured in strong, tight wooden or metal boxes.

NOTE 1: A fuze with any radioactive component is also subject to the applicable provisions of §§ 173.389 through 173.399 for the radioactive material.

(b) The gross weight of one outside package containing detonating fuzes, class A, must not exceed 190 pounds. Boosters, bursters and supplementary charges, without detonators, when shipped separately, must not exceed a gross weight of 300 pounds.

(c) Each outside package must be plainly marked "DETONATING FUZES CLASS A EXPLOSIVES—HANDLE CAREFULLY—DO NOT STORE OR LOAD WITH ANY HIGH EXPLOSIVES," or "DETONATING FUZES, CLASS A EXPLOSIVES, RADIOACTIVE—HANDLE CAREFULLY—DO NOT STORE OR LOAD WITH ANY HIGH EXPLOSIVES," or "BOOSTERS (EXPLOSIVE)—HANDLE CAREFULLY," or "BURSTERS (EXPLOSIVE)—HANDLE CAREFULLY," or "SUPPLEMENTARY CHARGES (EXPLOSIVE)—HANDLE CAREFULLY," as the case may be.

(49 U.S.C. 1655(c)) [29 FR 18683, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-90, 39 FR 45240, Dec. 31, 1974; Amdt. 173-94, 41 FR 16065, Apr. 15, 1976]

§ 173.70 Diazodinitrophenol or lead mononitroresorcinate.

(a) The offering of diazodinitrophenol or lead mononitroresorcinate in a dry condition for transportation is forbidden except as a component of manufactured articles such as percussion caps, detonators, blasting caps, and exploders.

(b) Diazodinitrophenol or lead mononitroresorcinate must be packed wet with not less than 40 percent by weight of water in a specification container 5 or 5B (§§ 178.80, 178.82 of this subchapter) metal barrel or drum, with inside containers which must be bags made of at least 10-ounce cotton duck, rubber, or rubberized cloth. Each bag must be securely closed. The bags containing diazodinitrophenol or lead mononitroresorcinate must be placed in a rubber bag, rubberized cloth bag, or bag made of suitable watertight material and then placed in the barrel or drum. Any empty space in the outside bag must be filled with water and this bag securely closed. The dry weight of diazodinitrophenol in one outside container must not exceed 220 pounds and the dry weight of lead mononitroresorcinate in one outside container must not exceed 100 pounds.

(c) Sufficient outage in outside container must be allowed to prevent rupturing of container in freezing weather, or a mixture of denatured alcohol and water may be used to prevent freezing in transit.

(d) Each barrel or drum must be plainly marked "INITIATING EXPLOSIVE — DANGEROUS — DO NOT STORE OR LOAD WITH ANY HIGH EXPLOSIVE."

[29 FR 18683, Dec. 29, 1964. Redesignated, 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173-81; 39 FR 17315, May 15, 1974; 39 FR 17847, May 21, 1974; Amdt. 173-94, 41 FR 16065, Apr. 15, 1976]

§ 173.71 Fulminate of mercury.

(a) The offering of fulminate of mercury in a dry condition for transportation is forbidden, except as a component of manufactured articles such as precussion caps, detonators, blasting caps, and exploders.

(b) Fulminate of mercury must be packed wet with not less than 25 percent by weight of water in a specification container 5 or 5B (§§ 178.80, 178.82 of this subchapter) metal barrel or drum, 17H (§ 178.118 of this subchapter) metal drum (single-trip), with an inside container which must be a bag made of 4-ounce duck. Inside the bag and over the fulminate, there must be placed a cap of the same fabric and of the same diameter as the bag. The bag must be securely tied and placed in a strong grain bag. The grain bag must also be securely tied. The bag and contents must be packed in the center of the metal barrel or drum and must be entirely surrounded by not less than three inches of well-packed sawdust saturated with water. The metal barrel or drum must be lined with a heavy, close-fitting, jute bag closed by secure sewing to prevent escape of sawdust. The barrel or drum must be inspected carefully and all leaks stopped. The dry weight of fulminate in one outside container must not exceed 150 pounds.

(c) If shipment of fulminate is to take place at a time that freezing weather is to be anticipated, a mixture of denatured ethly alcohol and water of such proportions that freezing will not occur in transit must be used.

(d) Each barrel or drum must be plainly marked "INITIATING EXPLOSIVE — DANGEROUS — DO NOT STORE OR LOAD WITH ANY HIGH EXPLOSIVE."

[29 FR 18683, Dec. 29, 1964. Redesignated, 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173-81, 39 FR 17315, May 15, 1974; 39 FR 17847, May 21, 1974; Amdt. 173-94, 41 FR 16065, Apr. 15, 1976]

§ 173.72 Guanyl nitrosamino guanylidene hydrazine.

(a) The offering of guanyl nitrosamino guanylidene hydrazine in a dry condition for transportation is forbidden, except as a component of manufactured articles such as percussion caps, detonators, blasting caps, and exploders.

(b) Guanyl nitrosamino guanylidene hydrazine must be packed wet with not less than 30 percent by weight of water in a specification container 5 or 5B (§§ 178.80, 178.82 of this subchapter) metal barrel or drum, 17H (§ 178.118 of this subchapter) metal drum (single-trip), with an inside container which must be a bag made of 4-ounce duck. Inside the bag and over the guanyl nitrosamino guanylidene hydrazine, there must be placed a cap of the same fabric and of the same diameter as the bag. The bag must be securely tied and placed in a strong grain bag. This grain bag must also be securely tied. The bag and contents must be packed in the center of the metal barrel or drum, and must be entirely surrounded by not less than three inches of well-packed sawdust saturated with water. The metal barrel or drum must be lined with a heavy, close-fitting, jute bag closed by secure sewing to prevent escape of sawdust. The barrel or drum must be inspected carefully and all leaks stopped. The dry weight of guanyl nitrosamino guanylidene hydrazine in one outside container must not exceed 75 pounds.

(c) If shipment of guanyl nitrosamino guanylidene hydrazine is to take place at a time that freezing weather is to be anticipated, a mixture of denatured ethyl alcohol and water of such proportions that freezing will not occur in transit must be used.

(d) Each barrel or drum must be plainly marked "INITIATING EXPLOSIVE—DANGEROUS—DO NOT STORE OR LOAD WITH ANY HIGH EXPLOSIVE."

[29 FR 18683, Dec. 29, 1964. Redesignated, 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173-81, 39 FR 17315, May 15, 1974; Amdt. 173-94, 41 FR 16065, Apr. 15, 1976]

§ 173.73 Lead azide.

(a) The offering of lead azide in a dry condition for transportation is forbidden, except as a component of manufactured articles such as percussion caps, detonators, blasting caps, and exploders.

(b) Lead azide, dextrinated type, or otherwise prepared to effectively control grain size, must be packed wet with not less than 20 percent by weight of water in a specification container 5 or 5B (§§ 178.80, 178.82 of this subchapter) metal barrel or drum, 17H (§ 178.118 of this subchapter) metal drum (single-trip), with an inside container which must be a bag made of 4-ounce duck. Inside the bag and over the lead azide, there must be placed a cap of the same fabric and of the same diameter as the bag. The bag must be securely tied and placed in a strong grain bag. This grain bag must also be securely tied. The bag and contents must be packed in the center of the metal barrel or drum, and must be entirely surrounded by not less than three inches of well-packed sawdust saturated with water. The metal barrel or drum must be lined with a heavy, close-fitting, jute bag closed by secure sewing to prevent escape of sawdust. The barrel or drum must be inspected carefully and all leaks stopped. The dry weight of lead azide in one container must not exceed 150 pounds.

(c) If shipment of lead azide is to take place at a time that freezing weather is to be anticipated, a mixture of denatured ethyl alcohol or other suitable antifreeze and water of such proportions that freezing will not occur in transit must be used.

(d) Each barrel or drum must be plainly marked "INITIATING EXPLOSIVE—DANGEROUS—DO NOT STORE OR LOAD WITH ANY HIGH EXPLOSIVE."

[29 FR 18683, Dec. 29, 1964. Redesignated, 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173-81, 39 FR 17315, May 15, 1974; Amdt. 173-94, 41 FR 16065, Apr. 15, 1976]

§ 173.74 Lead styphnate.

(a) The offering of lead styphnate (lead trinitroresorcinate) in a dry condition for transportation is forbidden, except as a component of manufactured articles such as percussion caps, detonators, blasting caps, and exploders.

(b) Lead styphnate (lead trinitroresorcinate) must be packed wet with not less than 20 percent by weight of water in specification container 5 or 5B (§§ 178.80, 178.82 of this subchapter) metal barrel or drum, 17H (§ 178.118 of this subchapter) metal drum (single-trip), with an inside container which must be a bag made of rubber cloth. The lead styphnate within this bag should be divided into a number of smaller packages. Inside the bag and over the lead styphnate, there must be placed a cap of the same fabric and of the same diameter as the bag. The bag and contents must be packed in the center of the metal barrel or drum, and must be entirely surrounded by not less than three inches of well-packed sawdust saturated with water. The metal barrel or drum must be lined with a heavy, close-fitting, jute bag closed by secure sewing to prevent escape of sawdust. The barrel or drum must be inspected carefully and all leaks stopped. The dry weight of lead styphnate in one outside container must not exceed 150 pounds.

(c) If shipment of lead styphnate is to take place at a time freezing weather is to be anticipated, it must be wet with a mixture of denatured ethyl alcohol and water of such proportions that freezing will not occur in transit.

(d) Each barrel or drum must be plainly marked "INITIATING EXPLOSIVE—DANGEROUS—DO NOT STORE OR LOAD WITH ANY HIGH EXPLOSIVE."

[29 FR 18683, Dec. 29, 1964. Redesignated, 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173-81, 39 FR 17316, May 15, 1974; Amdt. 173-94, 41 FR 16065, Apr. 15, 1976]

§ 173.75 Nitro mannite.

(a) The offering of nitro mannite in a dry condition for transportation is forbidden, except as a component of manufactured articles such as percussion caps, detonator, blasting caps, and exploders.

(b) Nitro mannite must be packed wet with not less than 40 percent by weight of water in a specification container 5 or 5B (§§ 178.80, 178.82 of this subchapter) metal barrel or drum, with inside container which must be bags made of at least 10-ounce cotton duck, rubber or rubberized cloth. Each bag must be securely closed. These bags containing the nitro mannite must then be placed in a rubber bag, rubberized cloth bag, or bag made of suitable watertight material and then placed in the barrel or drum. Any empty space in the outside bag must be filled with water and this bag securely closed. The dry weight of nitro mannite in one outside container must not exceed 100 pounds.

(1) Spec. 21C (§ 178.224 of this subchapter). Fiber drums not over 30 gallons **capacity of at least nine-ply construction having, in addition, a sheet of steel having a minimum base box of 75 pounds, not less than 0.008 inch thick, wound between the fifth and sixth plies. The inside ply of kraft paper shall be laminated on each side with polyethylene to form a waterproof lining. The bottom head shall be of fiber, metal covered on the outside. Nitro mannite must be packed wet with not less than 40 percent by weight of water and shall be contained in at least two tightly sealed polyethylene bags of at least 0.004 inch thickness and this unit shall then be placed in a tightly closed polyethylene bag of at least 0.004 inch thickness and this assembly shall be placed within a 0.006 inch thickness polyethylene or other suitable plastic bag, completely filled with water and tightly closed. The 0.006 inch plastic bag shall be of such size as to completely fill the outside shipping container. The dry weight of nitro mannite in one outside container must not exceed 100 pounds.**

(c) Sufficient outage in outside container must be allowed to prevent rupturing of container in freezing weather, or a mixture of denatured ethyl alcohol and water may be used to prevent freezing in transit.

(d) Each barrel or drum must be plainly marked "INITIATING EXPLOSIVE—DANGEROUS—DO NOT STORE OR LOAD WITH ANY HIGH EXPLOSIVE."

[29 FR 18683, Dec. 29, 1964. Redesignated, 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173-81, 39 FR 17316, May 15, 1974; Amdt. 173-94, 41 FR 16065, Apr. 15, 1976]

§ 173.76 Nitrosoguanidine.

(a) The offering of nitrosoguanidine in a dry condition for transportation is forbidden except as a component of manufactured articles such as percussion caps, detonators, blasting caps, and exploders.

(b) Nitrosoguanidine must be packed wet with not less than 10 percent by weight of water in a specification container 5 or 5B (§§ 178.80, 178.82 of this subchapter) metal barrel or drum, 17H (§ 178.118 of this subchapter) metal drum (single-trip) with an inside container which must be a bag made of strong cloth, which must in turn be placed in the barrel or drum. The dry weight of nitrosoguanidine in one outside container must not exceed 75 pounds.

(c) Each barrel or drum must be plainly marked "INITIATING EXPLOSIVE—DANGEROUS—DO NOT STORE OR LOAD WITH ANY HIGH EXPLOSIVE."

[29 FR 18683, Dec. 29, 1964. Redesignated, 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173-81, 39 FR 17316, May 15, 1974; Amdt. 173-94, 41 FR 16065, Apr. 15, 1976]

§ 173.77 Pentaerythrite tetranitrate.

(a) The offering of pentaerythrite tetranitrate in a dry condition for transportation is forbidden, except as a component of manufactured articles such as percussion caps, detonators, blasting caps, and exploders.

(b) Pentaerythrite tetranitrate must be packed wet with not less than 40 percent by weight of water in a specification container 5 or 5B (§§ 178.80, 178.82 of this subchapter) metal barrel or drum, 17H (§ 178.118 of this subchapter) metal drum (single-trip) with inside containers which must be bags made of at least 10-ounce cotton duck, rubber, or rubberized cloth. Each bag must be securely closed. These bags containing pentaerythrite tetranitrate must then be placed in a rubber bag, rubberized cloth bag, or bag made of suitable watertight material and then placed in the barrel or drum. Any empty space in the outside bag must be filled with water and this bag securely closed. The dry weight of pentaerythrite tetranitrate in one outside container must not exceed 300 pounds.

(c) Sufficient outage in outside container must be allowed to prevent rupturing of container in freezing weather, or a mixture of denatured ethyl alcohol or other suitable anti-freeze and water may be used to prevent freezing in transit.

(d) Each barrel or drum must be plainly marked "INITIATING EXPLOSIVE—DANGEROUS—DO NOT STORE OR LOAD WITH ANY HIGH EXPLOSIVE."

[29 FR 18683, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173-81, 39 FR 17316, May 15, 1974; Amdt. 173-94, 41 FR 16066, Apr. 15, 1976]

§ 173.78 Tetrazene.

(a) The offering of tetrazene (guanyl nitrosamino guanyl tetrazene) in a dry condition for transportation is forbidden, except as a component of manufactured articles such as percussion caps, detonators, blasting caps, and exploders.

(b) Tetrazene (guanyl nitrosamino guanyl tetrazene) must be packed wet with not less than 30 percent by weight of water in a specification container 5 or 5B (§§ 178.80, 178.82 of this subchapter) metal barrel or drum, 17H (§ 178.118 of this subchapter) metal drum (single-trip) with an inside container which must be a bag made of 4-ounce duck. Inside the bag and over the tetrazene, there must be placed a cap of the same fabric and of the same diameter as the bag. The bag must be securely tied and placed in a strong grain bag. This grain bag must also be securely tied. The bag and contents must be packed in the center of the metal barrel or drum, and must be entirely surrounded by not less than three inches of well-packed sawdust saturated with water. The metal barrel or drum must be lined with a heavy, close-fitting, jute bag closed by secure sewing to prevent escape of sawdust. The barrel or drum must be inspected carefully and all leaks stopped. The dry weight of tetrazene in one outside container must not exceed 75 pounds.

(c) If the shipment of tetrazene is to take place at a time that freezing weather is to be anticipated, it must be wet with a mixture of denatured ethyl alcohol and water of such proportions that freezing will not occur in transit.

(d) Each barrel or drum must be plainly marked "INITIATING EXPLO-

SIVE—DANGEROUS—DO NOT STORE OR LOAD WITH ANY HIGH EXPLOSIVE."

[29 FR 18683, Dec. 29, 1964. Redesignated, 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173-81, 39 FR 17316, May 15, 1974; Amdt. 173-94, 41 FR 16066, Apr. 15, 1976]

§ 173.79 Jet thrust units (jato), Class A explosives; rocket motors, Class A explosives; igniters, jet thrust (jato), Class A explosives; and igniters, rocket motor, Class A explosives.

(a) Jet thrust units (jato), rocket motors, jet thrust (jato) igniters, and rocket motor igniters, which are Class A explosives must be packaged as follows:

(1) Specification 14, 15A, 15E, or 16A (§§ 178.165, 178.168, 178.172, 178.185 of this subchapter) wooden boxes, or wooden boxes, fiberboard lined.

(2) Wooden boxes, wooden crates, or other packagings of approved military specifications which comply with § 173.7 (a), or other packagings approved by the Bureau of Explosives.

(b) Jet thrust units, class A explosives or rocket motors, class A explosives, must not be shipped with igniters assembled therein unless shipped by, for, or to the Department of the Army, the Department of the Navy, or the Department of the Air Force.

(c) Jet thrust units class A explosives or rocket motors, class A explosives, may be packaged in the same outside packaging with their separately packaged igniters (or igniter components), class A, B, or C explosives only in packagings approved by the Bureau of Explosives or of approved military specifications complying with § 173.7(a).

(d) Each package must be plainly marked "JET THRUST UNITS, CLASS A EXPLOSIVES", "ROCKET MOTORS, CLASS A EXPLOSIVES", "IGNITERS, JET THRUST, CLASS A EXPLOSIVES", or "IGNITERS, ROCKET MOTOR, CLASS A EXPLOSIVES", as appropriate.

[Amdt. 173-6, 34 FR 7160, May 1, 1969, as amended by Amdt. 173-94, 41 FR 16066, Apr. 15, 1976]

§ 173.80 Charged oil well jet perforating guns.

(a) Charged oil well jet perforating guns may be transported only by highway and only by private carriers engaged in oil well operations. When the total weight of the explosive contents of the shaped charges assembled to guns being transported in the motor vehicle does not exceed 20 pounds, these guns may be classed as Class C explosives. See § 173.110.

(b) Charged oil well jet perforating guns of the steel tube type must be packed without blasting caps, electric blasting caps, or other firing devices affixed to or installed in the guns and transported in specially constructed bodies of motor vehicles operated by private carriers engaged in oil well operations whose motor vehicles transporting such guns must have specially built racks or carrying cases designed and constructed so that the guns are held securely in place during transportation and are not subject to damage by contact, one to the other or other articles or materials carried on the vehicle. Shaped charges assembled in the steel tubes must be of the type described in § 173.53(h)(1), except that each shaped charge shall contain not over 4 ounces of high explosive and each shaped charge if not completely enclosed in glass or metal must be fully protected by a metal cover after installation in the gun.

(c) Charged oil well jet perforating guns of the metallic strip or tubular framework type must be packed without blasting caps, electric blasting caps, or other firing devices affixed to or installed in the guns and transported in specially constructed bodies of motor vehicles operated by private carriers engaged in oil well operations whose motor vehicles transporting such guns must have specially built racks or carrying cases designed and constructed so that the guns are held securely in place during transportation and are not subject to damage by contact, one to the other or other articles or materials carried on the vehicle. Shaped charges assembled in the metallic strips or tubular framework must be of the type described in § 173.53 (h)(1), except that each shaped charge shall contain not over 4 ounces of high explosive and each shaped charge if not completely enclosed in glass or metal must be fully protected by a metal cover after installation in the gun.

(d) The charged oil well jet perforating guns described in paragraphs (b) and (c) of this section and the bodies of motor vehicles transporting such guns must be so designed and constructed so that the guns are held securely in place during transportation and are not subject to damage by contact, one to the other or other articles or materials carried on the vehicle. The assembled gun or guns packed as required by paragraphs (b) or (c) of this section must not extend beyond the body of the vehicle and must be secured in the body of the motor vehicle in a fixed position so as to prevent movement relative to each other or in the body of the motor vehicle.

(e) Blasting caps, electric blasting caps, or other firing devices transported on any motor vehicle operated by private carriers engaged in oil well operations transporting charged oil well jet perforating guns shall be segregated; each kind from every other kind, and from jet perforating guns, tools or other supplies. Blasting caps, electric blasting caps, or other firing devices shall be carried in a container having individual pockets for each such device or in a fully enclosed steel container lined with nonsparking material. No more than two blasting caps, electric blasting caps, or other firing devices per gun shall be transported on the same motor vehicle transporting oil well jet perforating guns.

[29 FR 18683, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16066, Apr. 15, 1976]

§ 173.86 New explosives, definitions; approval and notification.

(a) As used in this section, "new explosive" means an explosive compound, mixture or device, produced by a person who:

(1) Has not previously produced that explosive compound, mixture or device; or

(2) Has previously produced the explosive compound, mixture or device, but has made a change in the formulation, design, process or production equipment. An explosive compound, mixture or device will not be considered a "new explosive" if an agency listed in paragraph (b) of this section has determined and confirmed in writing to the Office of Hazardous Materials Operations (OHMO) that there are no significant differences in hazard characteristics relative to the explosive compound, mixture or device previously approved.

(b) No person may offer a new explosive for transportation unless it has been examined, classed, and approved by one of the following agencies:

(1) Bureau of Explosives;

(2) The U.S. Energy Research and Development Administration (ERDA) for new explosives made by, or under the direction or supervision of ERDA when tested in accordance with the Explosives Hazard Classification Procedures contained in DOD TB 700-2 (May 19, 1967), or

(3) U.S. Army Material Development and Readiness Command (DRCFS), Naval Sea Systems Command (NAVSEA 04H), or HQUSAF (IGD/SEV) for new explosives made by, or under the direction or supervision of the Department of Defense when tested in accordance with the Explosives Hazard Classification procedures contained in DOD TB 700-2 (May 19, 1967), (NAVORDINST 8020.3 to 11A-1-47, DSAR 8220.1).

(c) Except as provided in paragraphs (d) and (e) of this section, each person who offers a new explosive for transportation, other than a new DOD explosive covered by a security classification, must file a copy of the approval for the new explosive accompanied by a supporting laboratory report of equivalent data with OHMO before offering the new explosive for transportation.

(d) Notwithstanding paragraph (b) of this section, any person may offer a sample of a new explosive that has not been approved for transportation by railroad, highway, or vessel to a laboratory for examination and approval if:

(1) The new explosive has been assigned a tentative shipping description and class in writing by one of the agencies listed in paragraph (b) of this section;

(2) The sample consists of no more than five pounds of the new explosive;

(3) The new explosive is packaged as required in this part according to the tentative description and class assigned unless otherwise specified in writing by one of the agencies listed in paragraph (b) of this section, and

(4) The package is labeled as required by this subchapter and the following is marked on the package:

(i) The words "SAMPLE FOR LABORATORY EXAMINATION";

(ii) The net weight of the new explosive, and

(iii) The tentative shipping description.

(e) Notwithstanding paragraph (b) of this section, a manufacturer of a new explosive that has not been examined or approved may transport that new explosive from where it was produced to an explosive testing facility if:

(1) The new explosive is not a forbidden explosive or an initiating explosive according to this subchapter;

(2) The new explosive is a compound or mixture it must be described as high explosive or high explosive, liquid, as appropriate (other than when contained in a device) and packed, marked, labeled, and described on the shipping paper as required by this subchapter;

(3) The new explosive is a device it must be assigned a tentative description and class by the owner and packed, marked, labeled, and described on the shipping paper as required by this subchapter based on its tentative description and class;

(4) The new explosive is transported in a motor vehicle operated by the owner of the explosive, and

(5) The new explosive is accompanied by a person, in addition to the driver of the motor vehicle, who is qualified by training and experience to handle the explosive.

[Amdt. 173-95, 41 FR 15013, Apr. 9, 1976, as amended by Amdt. 173-94, 41 FR 16066, Apr. 15, 1976, as amended by Amdt. 173-95, 41 FR 27728, July 6, 1976]

§ 173.87 Explosives in mixed packing.

(a) Unless specifically authorized by Parts 170-189 of this subchapter, explosives must not be packed in the same outside package with each other or with other articles. Explosives, except blasting caps and other other initiating explosives, in separate interior containers, may be shipped when packed in the same outside package of gross weight not exceeding 50 pounds, provided the weight of any interior package of explosives does not exceed 8 ounces, and provided the interior packages are so cushioned and protected as to insure their transportation without rupture or leakage of contents. The package must be marked and described with the name of the most dangerous explosive included such as "HIGH EXPLOSIVE", or "BLACK POWDER".

[29 FR 18683, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16066, Apr. 15, 1976]

CLASS B EXPLOSIVES; DEFINITIONS

§ 173.88 Definition of class B explosives.

(a) Explosives, class B, are defined as those explosives which in general function by rapid combustion rather than detonation and include some explosive devices such as special fireworks, flash powders, some pyrotechnic signal devices and liquid or solid propellant explosives which include some smokeless powders. These explosives are further specifically described in paragraphs (b) to (g) of this section.

(b) Ammunition for cannon with empty projectiles, inert-loaded projectiles, solid projectiles or without projectiles, or shell, and catapult charges exceeding 2 inches in diameter, is fixed ammunition assembled in a unit consisting of the cartridge case containing the propelling charge and primer with empty, inert-loaded, or solid projectiles, or without projectiles, which is fired from a cannon, mortar, gun, howitzer or recoilless rifle.

(c) Rocket ammunition is fixed ammunition which is fired from a tube, launcher, rails, trough, or other device as distinguished from cannon ammunition which is fired from a cannon, gun, or mortar. It consists of an igniter, a rocket motor, and empty projectile, inert-loaded projectile, or solid projectile.

(d) Special fireworks are manufactured articles designed primarily for the purpose of producing visible or audible pyrotechnic effects by combustion or explosion. (See § 173.100(r) for common fireworks.) Examples are toy torpedoes, railway torpedoes, some firecrackers and salutes, exhibition display pieces, aeroplane flares, illuminating projectiles, incendiary projectiles, incendiary bombs or incendiary grenades and smoke projectiles or smoke bombs fuzed or unfuzed and containing expelling charges but without bursting charges, flash powders in inner units not exceeding 2 ounces each, flash sheets in interior packages, flash powder or spreader cartridges containing not over 72 grains of flash powder each (see § 173.60 for shipments made as low explosives) and flash cartridges consisting of a paper cartridge shell, small-arms primer, and flash composition, not exceeding 180 grains all assembled in one piece. Fireworks must be in a finished state, exclusive of mere ornamentation, as supplied to the retail trade and must be so constructed and packed that loose pyrotechnic composition will not be present in packages in transportation.

(e) Jet thrust units (jato), class B explosives; rocket motors, class B explosives; igniters, jet thrust (jato), class B explosives; and igniters, rocket motors, class B explosives:

(1) Jet thrust units (jato), class B explosives, are metal cylinders containing a mixture of chemicals capable of burning rapidly and producing considerable pressure. Jet thrust units are designed to be ignited by an electric igniter. They are used to assist aeroplanes to take off.

(2) Rocket motor, class B explosives, is a device containing a propelling charge and consisting of one or more continuous type combustion unit(s), closed at one end (closure may be an igniter with a thrust plate) and with a nozzle(s) at the other end. The propelling charge consists of a mixture of chemicals and/or chemical compounds which when ignited is capable of burning rapidly and producing considerable pressure and which will not sustain a detonation. (The rocket motor carries its own solid oxidizer-fuel combination.) Rocket motors, class B explosives, should be nonpropulsive in shipment (see subdivisions (i) and (ii) of this subparagraph). Rocket motors, class B explosives, are designed to be ignited by an electrically actuated device which may be an igniter, or by other means. They are used to propel and/or provide thrust for guided missiles, rockets, or spacecraft.

(i) A rocket motor to be considered "nonpropulsive" must be capable of unrestrained burning and will not move appreciably in any direction when ignited by any means. Blast deflectors, thrust neutralizers or other similar devices must be proven by test prior to authorization for use.

(ii) Rocket motors, class B explosives, may be shipped in a propulsive state only under conditions approved by the Department of Defense.

(3) Igniters, jet thrust (jato), class B explosives, and igniters, rocket motor, class B explosives, are devices consisting of an electrically operated or remotely controlled ignition element and a fast burning composition which functions by rapid burning rather than detonation, assembled in a uit for use in igniting the propelling charge of jet thrust units, rocket motors, or rocket engines.

(f) *Propellant explosives, class B.* Propellant explosives, class B, are solid or liquid chemicals or chemical mixtures which function by combustion. The combustion is controlled by composition, size, form of grain, or other chemical or mechanical means. Any propellant is class B which fails to detonate in five trials when tested (see Note 2) in the package in which it is offered for shipment. Propellant explosives, class B, include smokeless powder for small arms (see Note 4), smokeless powder for cannon, liquid monopropellant fuel (see Note 3), smokeless powder, or solid propellant explosives for rockets, jet thrust units, or other devices. Black powder is not included in this classification and is defined specifically in § 173.53.

(g) Explosive power devices, class B, are devices designed to operate ejecting apparatus or other mechanisms by means of a propellant explosive, class B, and differ from explosive power devices, class C, in that they contain larger or more powerful propellants. The devices must not rupture on functioning and must be of a type approved by the Bureau of Explosives, except as otherwise provided in §§ 173.51(q) and 173.86(a).

NOTE 1. Fire-extinguisher charges containing not to exceed 50 grains of propellant explosives per unit are exempt from the regulations in Parts 170-189 of this chapter.

NOTE 2: In conducting the test, one propellant container shall be surrounded by inert loaded containers of the same weight, including one inert container placed on top of the propellant container. The propellant shall be ignited by means of a commercial electric squib placed within 4 inches of the bottom of the container. The presence of a crater and absence of flame shall be considered as evidences of detonation.

NOTE 3: A liquid monopropellant fuel is defined as any propellant in which the fuel and the oxidizer are physically or chemically combined in one form.

NOTE 4: Smokeless powder for small arms in quantities not exceeding 100 pounds net weight in one car or motor vehicle, except shipments by, for, or to the Department of the Army, Navy, or Air Force of the United States Government, shall be classed as a flammable solid for purposes of transportation when packaged in accordance with § 173.197a.

(h) Starter cartridges, jet engine, class B explosives consist of plastic and/or rubber cases, each containing a pressed cylindrical block of propellant explosive and having in the top of the case a small compartment that incloses an electrical squib, small amounts of black powder, and smokeless powder, which constitutes an igniter. The starter cartridge is used to activate a mechanical starter for jet engines.

(i) Rocket engine (liquid), class B explosives is a complete, self-contained rocket propulsion unit which contains an oxidizer and a fuel, each separated by an aluminum or stainless steel wall of not less than 0.250 inch thickness. Double walls are permitted. Pressurization of the propellant tanks is by use of a gas generator. The ignition source must be in an unarmed position for shipment. Rocket engines (liquid) are used to propel or provide thrust for rockets, missiles or spacecraft.

[29 FR 18683, Dec. 29, 1964, as amended by Order 72, 31 FR 6424, Apr. 28, 1966; Amdt. 173-6, 34 FR 7160, May 1, 1969]

§ 173.89 Ammunition for cannon with empty projectiles, inert-loaded projectiles, solid projectiles, or without projectiles or shell.

(a) Ammunition for cannon with empty projectiles, inert-loaded projectiles or shell, must be well packed and properly secured in strong wooden or metal containers.

(b) Each outside package must be plainly marked "AMMUNITION FOR CANNON WITH EMPTY PROJECTILES", "AMMUNITION FOR CANNON WITH INERT-LOADED PROJECTILES", "AMMUNITION FOR CANNON WITH SOLID PROJECTILES", or "AMMUNITION FOR CANNON WITHOUT PROJECTILES", as the case may be.

[29 FR 18683, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173-94, 41 FR 16066, Apr. 15, 1976]

§ 173.90 Rocket ammunition with empty, inert-loaded, or solid projectiles.

(a) Rocket ammunition with empty, inert-loaded, or solid projectiles must be well packed and properly secured in strong wooden or metal containers.

(b) Each package must be plainly marked "ROCKET AMMUNITION WITH EMPTY PROJECTILES," "ROCKET AMMUNITION WITH INERT-LOADED PROJECTILES," or "ROCKET AMMUNITION WITH SOLID PROJECTILES," as appropriate.

[Order 72, 31 FR 6424, Apr. 28, 1966. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16066, and Apr. 15, 1976]

§ 173.91 Special fireworks.

(a) Special fireworks, except as otherwise authorized, must be securely packed in containers complying with the following specifications:

(1) [Reserved]

(2) Spec. 15A, 15B, 16A, or 19A (§§ 178.168, 178.169, 178.185, or 178.190 of this subchapter). Wooden boxes. Gross weight not to exceed 500 pounds.

(3) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes. Gross weight not to exceed 65 pounds except as provided in subparagraph (5) of this paragraph. Not permitted for illuminating projectiles and aeroplane flares.

(4) Fireworks that can be exploded en masse, by dropping the completed shipping container from a height of six feet or by the impact of a rifle bullet, if found safe for transportation, may be shipped in accordance with the regulations in this part applying to high explosives.

(5) Ship distress signals when packed in tight inside metal containers of not less than 24 gauge sheet iron or other metal of equal strength, securely closed by positive means (not friction) and of such design and so arranged as to completely fill the outside container, may be packed in spec. 12B (§ 178.205 of this subchapter) fiberboard boxes. Gross weight not to exceed 95 pounds when boxes are made in accordance with § 178.205-29 of this subchapter.

(6) Illuminating projectiles, incendiary projectiles, and smoke projectiles exceeding 90 pounds in weight each, or of not less than 4½ inches in diameter, may be shipped without being boxed only by, for, or to the Departments of the Army, Navy, and Air Force of the U.S. Government when securely blocked and braced in accordance with methods prescribed by the cognizant military Departments and approved by the Department.

(i) Illuminating projectiles, incendiary projectiles, and smoke projectiles less than 4½ inches in diameter may be shipped without being boxed, when palletized, only by, for, or to the Departments of the Army, Navy, and Air Force of the U.S. Government when securely blocked and braced in accordance with methods prescribed by the cognizant military departments and approved by the Department.

(b) Flash or spreader cartridges not exceeding 72 grains of flash powder each must be packed in containers complying with the following specifications:

(1) Spec. 15A, 15B, 16A, or 19A (§§ 178.168, 178.169, 178.185, or 178.190 of this subchapter) Wooden boxes or spec 12B (§ 178.205 of this subchapter) fiberboard boxes, with inside containers which must be cartons or tin cans containing not over 6 cartridges and not to exceed 150 cartons or cans to an outer box.

(c) Flash cartridges consisting of a paper cartridge shell, small arms primer, and flash composition, not exceeding 180 grains each, all assembled in one piece ready for firing must be packed in containers complying with the following specifications:

(1) Spec. 15A, 15B, 16A, or 19A (§§ 178.168, 178.169, 178.185, or 178.190 of this subchapter). Wooden boxes, or spec. 12B (§ 178.205 of this subchapter) fiberboard boxes, with inside containers which must be cartons containing not to exceed 12 cartridges each and not more than 12 such cartons in one outside box.

(2) Flash cartridges, in quantity not exceeding 5 pounds, when in small interior wooden boxes, may be packed with nonexplosive, nonflammable or noncorrosive articles.

(d) Flash sheets must be packed in containers complying with the following specifications:

(1) Spec. 15A, 15B, 16A, or 19A (§§ 178.168, 178.169, 178.185, or 178.190 of this subchapter). Wooden boxes, or spec. 12B (§ 178.205 of this subchapter) fiberboard boxes, with inside containers which must be an inner package or envelope containing not more than 6 flash sheets and not more than one dozen inner envelopes or packages inclosed in each inner pasteboard box or carton. Gross weight of wooden box not to exceed 150 pounds. Gross weight of fiberboard box not to exceed 65 pounds.

(2) Flash sheets, in quantity not exceeding 5 pounds, when in small interior wooden boxes, may be packed with nonexplosive, nonflammable, or noncorrosive articles.

(e) Photographic flash powder must be packed in containers complying with the following specifications:

(1) Spec. 15A, 15B, 16A, or 19A (§§ 178.168, 178.169, 178.185, or 178.190 of this subchapter) Wooden boxes, or spec. 12B (§ 178.205 of this subchapter) fiberboard boxes, with inside containers which must be any inside container sufficiently strong to retain contents not exceeding 2 ounces each. If bottles are used, each bottle must be packed in a securely closed fiber mailing tube having metal ends. Not more than 4 dozen 2-ounce bottles may be packed in an outer wooden box. When packed in units not exceeding 1 ounce each without bottles in similar fiber mailing tubes and outer wooden boxes, the gross weight of one outside box must not exceed 150 pounds. Gross weight of fiberboard box not to exceed 65 pounds.

(2) Photographic flash powder, in quantity not exceeding 5 pounds, when in small interior wooden boxes, may be packed with nonexplosive, nonflammable, or noncorrosive articles.

(f) Railway torpedoes (track torpedoes) must be packed in containers complying with the following specifications:

(1) Spec. 15A, 15B, 16A, 19A, or 19B (§§ 178.168, 178.169, 178.185, 178.190, or 178.191 of this subchapter). Wooden boxes. Net weight not to exceed 125 pounds.

(2) Spec. 12H, 23F, or 23H (§ 178.209, § 178.214, or § 178.219 of this subchapter). Fiberboard boxes. Gross weight not to exceed 65 pounds.

(3) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes, with inside containers which must be cartons containing not to exceed one-half gross track torpedoes each. Gross weight of outside fiberboard box not to exceed 65 pounds.

(4) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes without inside containers may be used for not more than 50 track torpedoes provided the smallest dimension of the box is not less than 6 inches.

(g) Toy torpedoes must be securely packed as prescribed in this section in containers complying with the following specifications:

(1) Spec. 15A, 15B, 16A, or 19A (§§ 178.168, 178.169, 178.185, or § 178.190 of this subchapter) wooden boxes, or spec. 12B (§ 178.205 of this subchapter) fiberboard boxes which must be constructed to comply with § 178.205–30 of this subchapter. Not more than 20 one-quarter gross cartons totalling not more than 5 gross of toy torpedoes are authorized per fiberboard box. Gross weight of fiberboard box must not exceed 35 pounds. Gross weight of wooden box must not exceed 65 pounds.

(2) Toy torpedoes of any kind must not be packed with other fireworks.

(3) Toy torpedoes containing a cap must be packed in sawdust, in inside paper or cardboard cartons. The size of the carton must be not less than 4 cubic inches for each grain of explosive.

(4) Toy torpedoes containing a mixture of potassium chlorate, black antimony and sulfur, must be packed in an inner container, containing not more than one-fourth gross. The capacity of this inner container must be not less than 105 cubic inches, and it must be divided into 12 equal compartments. All vacant space inside the container must then be filled with sawdust or fine shavings.

(5) The gross weight of a container of toy torpedoes must not exceed 65 pounds.

(h) Except as otherwise specified in this section the gross weight of one outside container of special fireworks must not exceed 500 pounds.

(i) *Marking.* Each outside container of special fireworks must be plainly marked in letters not less than 7/16 inch in height "SPECIAL FIREWORKS—HANDLE CAREFULLY—KEEP FIRE AWAY", except that each outside container of railway torpedoes must be plainly marked in letters not less than 7/16 inch in height "RAILWAY TORPEDOES—HANDLE CAREFULLY—KEEP FIRE AWAY".

(1) Outside containers of toy torpedoes must in addition be marked "TOY TORPEDOES".

[29 FR 18683, Dec. 29, 1964, as amended by Order 71, 31 FR 9070, July 1, 1966. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–70, 38 FR 5308, Feb. 27, 1973; Amdt. 173–81, 39 FR 17316, May 15, 1974; Amdt. 173–94, 41 FR 16066, Apr. 15, 1976.]

§ 173.92 Jet thrust units (jato), CLASS B explosives; rocket motors, CLASS B explosives; igniters, jet thrust (jato), CLASS B explosives; igniters, rocket motors, CLASS B explosives; and starter cartridges, jet engine, CLASS B explosives.

(a) Class B explosives covered by this section must be packaged in outside packagings complying with the following specifications:

(1) Specification 14, 15A, 15E, or 16A (§§ 178.165, 178.168, 178.172, 178.185 of this subchapter) wooden boxes, or wooden boxes, fiberboard lined.

(2) Specification 15B (§ 178.169 of this subchapter) wooden boxes. Authorized only for igniters, jet thrust, class B explosives, or igniters, rocket motors, class B explosives.

(3) Specification 23F (§ 178.214 of this subchapter) fiberboard boxes. Authorized only for igniters, jet thrust, class B explosives; igniters, rocket motor, class B explosives; or starter cartridges, jet engine, class B explosives. Items must be packaged in tightly closed inside fiberboard boxes (at least 200-pound test (Mullen or Cady)) or metal containers. Starter cartridges, jet engine, must have igniter wires short-circuited when packed for shipment.

(4) Wooden boxes, wooden crates, or other packagings of approved military specification which comply with § 173.7 (a), or other packagings approved by the Bureau of Explosives.

(b) Jet thrust units, class B explosives, or rocket motors, class B explosives, must not be shipped with igniters assembled therein unless shipped by, for, or to the Department of the Army, the Department of the Navy, or the Department of the Air Force.

(c) Jet thrust units, class B explosives, or rocket motors, class B explosives, may be packaged in the same outside packaging with their separately packaged igniters (or igniter components), class A, B, or C explosives, only in packagings approved by the Bureau of Explosives or of approved military specifications complying with § 173.7(a).

(d) Each package must be plainly marked "JET THRUST UNITS, CLASS B EXPLOSIVES", "ROCKET MOTORS, CLASS B EXPLOSIVES", "IGNITERS, JET THRUST, CLASS B EXPLOSIVES", "IGNITERS, ROCKET MOTORS, CLASS B EXPLOSIVES", or "STARTER CARTRIDGES, JET ENGINE, CLASS B EXPLOSIVES" as appropriate.

[Amdt. 173–6, 34 FR 7160, May 1, 1969, as amended by Amdt. 173–70, 38 FR 5308, Feb. 27, 1973; Amdt. 173–94, 41 F.R. 16066, Apr. 15, 1976]

§ 173.93 Propellant explosives (solid) for cannon, small arms, rockets, guided missiles, or other devices, and propellant explosives (liquid).

(a) Propellant explosives (solid) for cannon, small arms, rockets, guided missiles, or other devices, and propellant explosives (liquid) when offered for transportation by carriers by rail freight, highway, or water, must be packed in containers complying with the following specifications (see paragraph (g)(1) of this section for shipments by cargo-only aircraft);

(1) [Reserved]

(2) Spec. 13 (§ 178.140 of this subchapter). Metal kegs at least 8 inches long. Gross weight not to exceed 150 pounds.

(3) Bundles of metal kegs, spec. 13 (§ 178.140 of this subchapter), firmly tied together with rope and wrapped in strong burlap, canvas, or similar material, securely sewed and roped, are authorized. Net weight of propellant explosives must not exceed 100 pounds.

(4) Tight metal cases in tight wooden boxes free from loose knots and cracks or tight metal containers. Gross weight not to exceed 200 pounds.

(5) Spec. 14 or 15A (§§ 178.165 or 178.168 of this subchapter). Wooden boxes, metal-lined, spec. 2F (§ 178.25 of this subchapter). Gross weight not to exceed 200 pounds.

(6) Spec. 14 or 15A (§ 178.165 or § 178.168 of this subchapter) wooden boxes or spec. 23F or 23H (§ 178.214 or § 178.219 of this subchapter) fiberboard boxes, with inside containers which must be cloth or paper bags, of capacity not exceeding 25 pounds, net weight, each capable of withstanding, when filled to shipping content, at least two drops on end from a height of 4 feet, without breakage or sifting of contents. Outside container not to exceed more than 50 pounds, net weight.

(7) Spec. 14, 15A, 15B, or 15C (§§ 178.165, 178.168, 178.169, or § 178.170 of this subchapter) wooden boxes, or spec. 12B, 23F, or 23H (§§ 178.205, 178.214, or § 178.219 of this subchapter) fiberboard boxes, with inside containers which must be spec. 13 metal kegs. Spec. 12B (§ 178.205 of this subchapter) fiberboard boxes shall contain not more than 6 metal kegs not over 5 pounds net weight each in one outside box. Gross weight not to exceed 200 pounds in wooden boxes or 65 pounds in fiberboard boxes.

(8) Spec. 14, 15A, 15B, or 15C (§§ 178.165, 178.168, 178.169, or 178.170 of this subchapter) wooden boxes, or spec. 12H, 23F, or 23H (§§ 178.209, 178.214, or 178.219 of this subchapter) fiberboard boxes, with inside containers which must be fiber or metal containers of not more than 1½ pounds capacity each. Gross weight not to exceed 200 pounds in wooden boxes or 65 pounds in fiberboard boxes.

(9) Spec. 14, 15A, 15B or 15C (§§ 178.165, 178.168, 178.169 or 178.170 of this subchapter) wooden boxes, or spec. 23F or 23H (§§ 178.214 or 178.219 of this subchapter) fiberboard boxes, with inside containers which must be not to exceed four metal containers, spec. 2A (§ 178.20 of this subchapter), of not more than 25 pounds each. Gross weight in fiberboard boxes not to exceed 65 pounds.

(10) Specification 21C (§ 178.224 of this subchapter). Fiber drum. Each drum having any wooden head must be provided with a strong, sift-proof liner. Net weight may not exceed 225 pounds. Shipment by rail freight is prohibited except in trailer-on-flat-car service.

(11) Spec. 14, 15A, or 16A (§§ 178.165, 178.168, or 178.185 of this subchapter). Wooden boxes, not lined, authorized only for grains not less than 1-inch in diameter or 3 inches in length, provided such grains are tightly packed and are coated with a protective material. Gross weight not to exceed 200 pounds.

(12) Propellant explosives packed in any manner other than as specifically provided for in this paragraph must be in containers approved by the Bureau of Explosives.

(b) Propellant explosives (smokeless powder for cannon or small-arms) in water when offered for transportation by carriers by rail freight, highway, or water must be packed in containers complying with the following specifications:

(1) Spec. 5, 5A, 5B, 6A, 6B, or 6C (§§ 178.80, 178.81, 178.82, 178.97, 178.98, or 178.99 of this subchapter). Metal barrels or drums.

(2) [Reserved]

(3) Spec. 15A (§ 178.168 of this subchapter). Wooden boxes metal-lined, spec 2F (§ 178.25 of this subchapter).

(c) Igniters composed of black powder may be included in shipments of propellant explosives.

(d) Propellant explosives (unstable, condemned, or deteriorated smokeless powder for cannon or small arms) must be packed submerged in water in containers complying with the following specifications:

(1) Spec. 5, 5A, 5B, 6A, 6B, or 6C (§§ 178.80, 178.81, 178.82, 178.97, 178.98, or 178.99 of this subchapter). Metal barrels or drums.

(2) [Reserved]

(3) Spec. 15A (§ 178.168 of this subchapter). Woden boxes, metal-lined, spec 2F (§ 178.25 of this subchapter).

(4) Spec. 103, 103-W, or 111A100-W-1 (§§ 178.265, 178.280 or 178.303 of this subchapter). Tank cars.

(5) Propellant explosives (unstable, condemned, or deteriorated smokeless powder for cannon or small arms) may not be offered for transportation by cargo-only aircraft.

(e) Propellant explosives (liquid), when offered for transportation by rail freight, highway, or water, must be packed in containers complying with the following specifications (see § 173.93(g) for shipments by rail express):

(1) Spec. 15A, 15B, or 15E (§§ 178.168, 178.169, or 178.172 of this subchapter). Wooden box or wooden box fiberboard lined, with inside polyethylene bottles having taped screw-cap closures, not over 1 gallon capacity each. Each bottle must be entirely contained within a polyethylene or other suitable plastic bag formed of material not less than 0.004 inch thickness, with ends securely closed. Each bottle in the plastic bag shall be enclosed in a tight metal container and be surrounded on all sides with at least 2 inches of incombustible cushioning material; cans in the outside box must likewise be cushioned from each other and sides, top, and bottom of the container.

(2) Spec. 5B, 6A, 6B, 6C, 6D; also 17C or 17H (single-trip containers) (§§ 178.82, 178.97, 178.98, 178.99, 178.102, 178.115, or 178.118 of this subchapter). Metal barrel, drum, or cylindrical steel overpack, with inside spec. 2S (§ 178.35 of this subchapter) polyethylene container, packed inside a strong, tight metal drum securely closed, or with inside glass-lined aluminum carboy not over 12 gallons capacity. Inside steel drum or glass-lined aluminum carboy must be surrounded on all sides with at least 2 inches of incombustible absorbent cushioning material uniformly distributed. Polyethylene containers are authorized only for liquids that will not react dangerously with the plastic or result in container failure.

(3) Outage requirements. Containers must not be entirely filled. Sufficient interior space must be left vacant to prevent leakage or distortion of containers due to the expansion of the contents from increase of temperature during transit.

(4) Propellant explosives (liquid) packed in any manner other than as specifically provided for in this paragraph must be in containers approved by the Bureau of Explosives.

(f) Each outside container must be plainly marked "PROPELLANT EXPLOSIVES (LIQUID), CLASS B," "PROPELLANT EXPLOSIVES (SOLID), CLASS B," or "PROPELLANT EXPLOSIVES (SOLID), CLASS B, in WATER," as the case may be. There may be added such additional marking as "Smokeless Powder for Cannon" or "Smokeless Powder for Small Arms," as the case may be.

(g) Propellant explosives, except as provided in paragraph (d)(5) of this section, when offered for transportation by cargo-only aircraft must be packaged as follows (also authorized for transportation by carriers by rail freight, highway, or water):

(1) Solids in tightly closed metal cans or fiber containers, not exceeding 1 pound each, or in inside metal cans or fiber containers containing not more than one grain of propellant, not exceeding 5 pounds each, and liquids in polyethylene bottles compatible with contained liquid, with screw-cap closures taped, not exceeding 1 pound or 16 fluid ounces capacity each, packed in outside wooden box, spec. 15A, 15B, or 15C (§§ 178.168, 178.169, or 178.170 of this subchapter); or outside fiberboard box spec. 12B, 23F, or 23H (§§ 178.205, 178.214, or 178.219 of this subchapter). Not more than 1,000 small-arms primers packed in inside containers as prescribed by § 173.107 may be included in one outside shipping container with solid propellant explosives. Inside containers must be packed so as to prevent movement within the outside container. Not more than 10 pounds of propellant explosives may be shipped in one outside container. Each outside container must be plainly marked "PROPELLANT EXPLOSIVES (LIQUID), CLASS B," or "PROPELLANT EXPLOSIVES (SOLID), CLASS B," or "PROPELLANT EXPLOSIVES, CLASS B, and SMALL-ARMS PRIMERS," as the case may be.

[29 FR 18683, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, amended by Amdt. 173-63, 37 FR 12945, June 24, 1972; Amdt. 173-70, 38 FR 5308, Feb. 27, 1973; Amdt. 173-81, 39 FR 17316, May 15, 1974; Amdt. 173-94, 41 FR 16066, Apr. 15, 1976]

§ 173.94 Explosive power devices, Class B.

(a) Explosive power devices, class B, must not be shipped with igniters assembled therein unless shipped by, for, or to the Departments of the Army, Navy, and Air Force of the United States Government or unless of a type approved by the Bureau of Explosives. Explosive power devices, class B, must be packed in outside containers complying with the following specifications:

(1) Spec. 14, 15A, 15E, or 16A (§§ 178.165, 178.168, 178.172, or 178.185 of this subchapter). Wooden boxes or wooden boxes, fiberboard lined.

(2) Strong wooden or metal boxes or containers. Authorized only for shipments made by, for, or to the Departments of the Army, Navy, or Air Force of the United States Government.

(b) Explosive power devices, class B, packed in any other manner must be in containers of a type approved by the Bureau of Explosives.

(c) Each outside container must be plainly marked "EXPLOSIVE POWER DEVICES, CLASS B" *and* "HANDLE CAREFULLY—KEEP FIRE AWAY."

[29 FR 18683, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, as amended by Amdt. 173-70, 38 FR 5308, Feb. 27, 1973; 38 FR 6180, Mar. 7, 1973; Amdt. 173-94, 41 FR 16066, Apr. 15, 1976]

§ 173.95 Rocket engines (liquid), Class B explosives.

(a) Rocket engines (liquid), Class B explosives must be packaged as follows:

(1) Specification 14, 15A, 15E, or 16A (§§ 178.165, 178.168, 178.172, 178.185 of this subchapter) wooden boxes, or wooden boxes, fiberboard lined.

(2) Wooden boxes or metal packagings of approved military specification which comply with § 173.7(a), or other packagings approved by the Bureau of Explosives.

(b) Rocket engines (liquid), class B explosives, must not be shipped with igniters or initiators assembled therein unless shipped by, for, or to the Department of the Army, the Department of the Navy, or the Department of the Air Force, and only when authorized by the Department of Defense or by the Bureau of Explosives.

(c) Rocket engines (liquid), class B explosives, may be packed in the same outside packaging with separately packaged igniters, jet thrust, class B explosives when authorized by the Department of Defense or when packagings are approved by the Bureau of Explosives.

(d) Each package must be plainly marked "ROCKET ENGINES (LIQUID), CLASS B EXPLOSIVES."

[Amdt. 173-6, 34 FR 7160, May 1, 1969 and amended by Amdt. 173-94, 41 FR 16066, Apr. 15, 1976]

Class C Explosives; Definitions

§ 173.100 Definition of Class C explosives.

(a) Explosives, class C, are defined as certain types of manufactured articles which contain class A, or class B explosives, or both, as components but in restricted quantities, and certain types of fireworks. These explosives are further specifically described in this section.

(b) Small arms ammunition is fixed ammunition consisting of a metallic, plastic composition, or paper cartridge case, a primer, and a propelling charge, with or without bullet, projectile, shot, tear gas material, tracer components, or incendiary compositions, or mixtures, and is further limited to the following:

(1) Ammunition designed to be fired from a pistol, revolver, rifle, or shotgun held by the hand or to the shoulder.

(2) Ammunition of caliber less than 20 millimeters with incendiary solid, inert or empty projectiles (with or without tracers), designed to be fired from machine guns or cannons.

(3) Blank cartridges including canopy remover cartridges, starter cartridges, and seat ejector cartridges, containing not more than 500 grains of propellant powder, provided that such cartridges shall be incapable of functioning en masse as a result of the functioning of any single cartridge in the container or as a result of exposure to external flame.

(4) Twenty millimeter ammunition other than specified in § 173.53(q).

(c) Explosive cable cutters are used for cutting cables, etc. They consist of a metal device containing a knife-edged component which is propelled by a small charge of an explosive compound.

(d) Cordeau detonant fuse is a fuse containing a core of pentaerythrite tetranitrate or cyclotrimethylene-trinitramine not exceeding 400 grains per linear foot, overspun with tapes, yarns and plastics or waterproofing compounds. Wire countering is permissible.

(e) Percussion fuzes, combination fuzes, and time fuzes are devices designed to ignite powder charges of ammunition or to initiate an intermediate charge (booster) in projectiles, bombs, etc. When such fuzes are assembled with booster charges they are properly described as "detonating fuzes" (see § 173.53(g)(2)).

(f) Tracer fuzes and tracers are devices which are attached to projectiles and contain a slow-burning composition to show the flight of projectiles at night.

(g) Cartridge bags, empty, with black powder igniters consist of empty bags having attached thereto an igniter composed of black powder. (See § 173.93 (b), (c), and (d) when shipped with propellant explosives.)

(h) Igniters consist of fiberboard, plastic, paper or metal tubes containing a small quantity of igniting compound which is ignited by the action of a primer, pull wire or scratch composition.

(i) Delay electric igniters consist of small metal, fiberboard, or pasteboard tubes containing a wire bridge in contact with a small quantity of ignition compound. The ignition compound is in contact with or in close proximity to a short piece of safety fuse.

(j) Electric squibs consist of small tubes or blocks containing a small quantity of ignition compound in contact with a wire bridge.

(k) Fuse lighters and fuse igniters are small cylindrical hollow pasteboard or metal tubes containing an igniting composition in one end, the other end being open to permit it to be placed on safety fuse.

(l) Safety squibs are small paper tubes containing a small quantity of black powder. One end of each tube is usually twisted and tipped with sulfur.

(m) Instantaneous fuse is cotton yarn impregnated with meal powder. No restrictions other than packing in strong wooden boxes or barrels plainly marked "INSTANTANEOUS FUSE" are prescribed in this part.

(n) Primers are devices used to ignite the powder charges of ammunition or the black powder bursting charges of projectiles. For small-arms ammunition the primers are "small-arm primers" or "percussion caps".

(o) Safety fuse, consisting of a core of black powder overspun with yarns, waterproofing compounds, and/or tapes must be packed in outside fiberboard boxes, wooden boxes, wooden barrels, bales, or metal containers, and must be described for shipping purposes as "SAFETY FUSE". No other restrictions apply in this part.

(p) Toy paper caps, consisting of paper cap ammunition for toy pistols, in sheets, strips, rolls, or individual caps, must not contain more than an average of twenty-five hundredths of a grain of explosive composition per cap and must be packed in inside packages constructed of cardboard not less than 0.013 inch in thickness, metal not less than 0.008 inch in thickness, or noncombustible plastic not less than 0.015 inch in thickness, which shall provide a complete enclosure and the minimum dimensions of each side or end of such package shall be not less than ⅛ inch in height. Unless greater weight of composition is approved by the Bureau of Explosives, the number of caps in these inside packages shall be limited so that not more than 10 grains of explosive composition shall be packed into one cubic inch of space and not exceeding 17.5 grains of the explosive composition of toy caps shall be packed in any inside container. These inner containers must be packed in outside containers as specified in § 173.109.

(q) Explosive rivets, each containing not more than 375 milligrams of explosive composition, are exempt from specification packaging and labeling requirements when packed in pasteboard or other inside boxes in securely closed strong wooden boxes, fiberboard boxes or metal containers. Each outside container must be marked "EXPLOSIVE RIVETS". No other restrictions apply in this part.

(r) Common fireworks are fireworks devices suitable for use by the public and designed primarily to produce visible effects by combustion. Some small devices designed to produce audible effects are also included in this class. The types, sizes and amount of pyrotechnic contents of these devices are limited as enumerated in this paragraph. No component, of any device listed in this paragraph, which produces or is intended to produce an audible effect shall contain pyrotechnic composition in excess of 2 grains in weight; nor shall such device or component, upon functioning, project or disperse any metal, glass or brittle plastic fragments. (Propelling or expelling charges consisting of a mixture of sulfur, charcoal, and saltpeter are not considered as designed to produce audible effects.) Any new device, not enumerated in this paragraph, must be approved by the Bureau of Explosives before being offered for transportation as Common Fireworks. Common fireworks must be in a finished state exclusive of mere ornamentation as supplied to the retail trade and must be so constructed and packed that loose pyrotechnic composition will not be present in packages in transportation. Fireworks, except articles defined in paragraphs (s) through (y) inclusive, of this section, other than common fireworks as defined in this paragraph, and those forbidden for transportation in § 173.51, are classed as Special Fireworks (see § 173.88(d)).

(1) Roman candles, not exceeding ten balls spaced uniformly in the tube, total pyrotechnic composition not to exceed twenty grams each in weight. The inside tube diameter shall not exceed ⅜ inch.

(2) Sky rockets with sticks, total pyrotechnic composition not to exceed twenty grams each in weight. The inside tube diameter shall not exceed ½ inch. The rocket sticks must be securely fastened to the tubes.

(3) Helicopter type rockets, total pyrotechnic composition not to exceed twenty grams each in weight. The inside tube diameter shall not exceed ½ inch.

(4) Cylindrical fountains, total pyrotechnic composition not to exceed seventy-five grams each in weight. The inside tube diameter shall not exceed ¾ inch.

(5) Cone fountains total pyrotechnic composition not to exceed fifty grams each in weight.

(6) Wheels, total pyrotechnic composition not to exceed sixty grams for each driver unit or two hundred and forty grams for each complete wheel. The inside tube diameter of driver units shall not exceed ½ inch.

(7) Illuminating torches and colored fire in any form, total pyrotechnic composition not to exceed one hundred grams each in weight.

(8) Dipped sticks, the pyrotechnic composition of which contains any chlorate or perchlorate shall not exceed 5 grams. Sparklers, the composition of which does not exceed 100 grams each and which contain no magnesium or magnesium and a chlorate or perchlorate, are not subject to the regulations in Parts 170–189 and 397 of this title.

(9) Mines and shells of which the mortar is an integral part, total pyrotechnic composition not to exceed forty grams each in weight.

(10) Firecrackers and salutes with casings, the external dimensions of which do not exceed one and one-half inches in length or one-quarter inch in diameter, total pyrotechnic composition not to exceed two grains each in weight.

(11) Novelties consisting of two or more devices enumerated in this paragraph when approved by the Bureau of Explosives.

(s) Igniter cord consists of textile yarns and/or a wire uniformly covered with a combustible chemical mixture, with or without additional textile or wire counterings, waterproofing or finishing coatings which, when ignited, burns externally at various rates according to design. Igniter cord must be packed in strong, tight, outside fiberboard boxes or drums, wooden boxes or metal containers plainly marked "IGNITER CORD."

(t) Explosive auto alarms are tubular devices containing a small amount of explosive composition and igniting compound which is ignited by an electric spark. These devices must be so designed that they will neither burst nor cause external flame on functioning.

(u) Toy propellant devices and toy smoke devices consist of small paper or composition tubes or containers containing a small charge of slow burning propellant powder or smoke producing powder. These devices must be so designed that they will neither burst nor produce external flame on functioning and ignition elements, if attached, must be of a design approved by the Bureau of Explosives.

(v) Oil well cartridges are tubular devices each containing not more than 350 grains of propellant powder and having no ignition device or element. Cartridges must be constructed and packed so that they will be incapable of functioning en masse as a result of exposure to external flame.

(w) Actuating cartridges, explosive, fire extinguisher or valve consist of a small metal or fiber housing containing a small amount of initiating explosive and a propellant and are used to actuate valves on remotely controlled fire extinguishers or other apparatus.

(x) Cigarette loads, trick matches, and trick noise makers, explosive, must be of a type approved by the Bureau of Explosives and are described as follows:

(1) Cigarette loads consist of wooden pegs to which are affixed a small amount of explosive composition.

(2) Trick matches consist of book matches, strike anywhere matches, or strike-on-box matches which have small amounts of explosive or pyrotechnic composition affixed to the match stem just below the match head.

(3) Trick noise makers, explosive, consist of spheres containing a small amount of explosive composition.

(y) Smoke candles, smokepots, smoke grenades, smoke signals, signal flares, hand signal devices, and Very signal cartridges are devices designed to produce visible effects for signal purposes. These devices must contain no bursting charges and no more than 200 grams of pyrotechnic composition each (see note 1), exclusive of smoke composition (see note 2), unless greater weight of composition is approved by the Bureau of Explosives.

NOTE 1: Pyrotechnic compositions (other than smoke compositions) are defined as chemical mixtures which on burning and without explosion, produce visible or brilliant displays or bright lights.

NOTE 2: Pyrotechnic smoke compositions are defined as chemical smoke producing mixtures, which on ignition burn at a controlled rate, without the production of flame and without the build-up of internal pressure that would rupture or burst the end product.

(z) Explosive release devices consist of a rod or link fitted with means for mechanical attachment to other apparatus or equipment and containing a small electrically initiated explosive charge which will break the rod or link upon functioning. These devices must be so designed that they will not function other explosive devices in the package sympathetically.

(aa) Explosive power devices, class C, are devices designed to drive generators or mechanical apparatus by means of propellant explosives, class B. The devices consist of a housing with a contained propellant charge and an electric igniter or squib. The devices must be of a type approved by the Bureau of Explosives for this classification.

(bb) Detonating fuzes, class C explosives, are used in the military service to detonate high explosive bursting charges of projectiles, mines, bombs, torpedos, grenades, demolition charges, and safety and arming devices. They contain a detonator and a quantity of high explosives. Additionally they may be used by the military or commercial users to transmit a detonation between two or more devices. This type detonating fuze contains either an explosive train consisting of mild detonating fuse, metal clad, igniter fuse-metal clad or similar type fuses, and any combination of one or more boosters, detonators and high explosives in a total quantity not exceeding 25 grams of explosive composition. All detonating fuzes, class C explosives, must be made and packed so that they will not cause functioning of other fuzes, explosives, or other explosive devices if one of the fuzes detonates in a shipping container or in adjacent containers.

(cc) Mild detonating fuses, metal clad and flexible linear shaped charges, metal clad consists of a core containing not more than 2½ grains of high explosive composition per lineal foot, clad with metal either with or without a covering of tapes, yarns, plastics or waterproofing compounds. Mild detonating fuse, metal clad, and flexible linear shaped charges, metal clad, in lengths not over 26 feet and not exceeding 15 grains per lineal foot having the individual lengths separated from adjacent lengths so that mass propagation will not occur, may be shipped as class C explosives.

(dd) Igniter fuse-metal clad consists of a base metal tube with a core of explosive igniter composition in quantity not exceeding 20 grains per foot.

(ee) Starter cartridges, jet engine, class C, consist of a metal, plastic, and/or rubber case, each containing a pressed cylindrical block of flammable solid material and having in the top of the case a small compartment that encloses an electric squib, small amount of black powder, and/or smokeless powder which constitute an igniter. The starter cartridge is used to activate a mechanical starter for jet engines and must be of a type approved by the Bureau of Explosives except as provided in § 173.51(q) and § 173.86(a).

(ff) "Cartridge, practice ammunition" means a metal cartridge case containing a primer, a propelling charge of not more than 500 grains of propellant powder, and a solid projectile or a projectile containing a smoke spotting charge.

[29 FR 18683, Dec. 29, 1964, as amended by 31 FR 9070, July 1, 1966. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-6, 34 FR 7161, May 1, 1969; Amdt. 173-29, 35 FR 12208, July 30, 1970; Amdt. 173-56, 36 FR 21201, Nov. 4, 1971]

§ 173.101 Small-arms ammunition.

(a) Small-arms ammunition must be packed in pasteboard or other inside boxes, or in partitions designed to fit snugly in the outside container, or must be packed in metal clips. The partitions and metal clips must be so designed as to protect the primers from accidental injury. The inside boxes, partitions and metal clips must be packed in securely closed strong outside wooden or fiberboard boxes or metal containers. Blank Industrial Power Load cartridges, similar to the 22 long rim-fire cartridge, may be packed in bulk in securely closed fiberboard boxes.

(b) Small-arms ammunition in pasteboard or other inside boxes, in addition to containers prescribed in paragraph (a) of this section, may be shipped when packed in the same outside container with nonexplosive and nonflammable articles; or with small-arms primers or percussion caps in quantity not to exceed 5 pounds. The weight of the small-arms ammunition packed with other articles must not exceed 55 pounds in outside fiberboard box, or 75 pounds in outside wooden box. The outside package must be a securely closed strong wooden or fiberboard container.

(c) Packages containing small-arms ammunition are excepted from the label prescribed in § 172.411 of this subchapter, but the outside of each package must be plainly marked "SMALL ARMS AMMUNITION."

(d) Each package containing cartridges loaded with an Irritating Material must, in addition to marking prescribed herein, be marked "IRRITATING AGENT" and must bear the IRRITANT label.

(e) No restrictions other than proper description, packing and marking for small-arms ammunition and additional marking and labeling for tear gas cartridges are prescribed in this part for the transportation of small-arms ammunition and tear gas cartridges.

(f) Shipments of small-arms ammunition, including broken lots which have lost their identity (lot number identification), may be shipped loosely packed in securely closed strong wooden boxes or metal boxes, in carload or truckload lots, when shipments are made by or for the Departments of the Army, Navy or Air Force of the United States Government to depots or manufacturing plants for reprocessing or demilitarization. Seriously deteriorated ammunition or ammunition damaged to the point of exposing incendiary or tracer composition, spillage of propellant powder, or ammunition with other hazardous defects must not be shipped. Each outside package must be plainly marked "SMALL-ARMS AMMUNITION."

[29 FR 18683, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, as amended by Amdt. 173-94, 41 FR 16066, Apr. 15, 1976]

§ 173.101a Cartridges, practice ammunition.

(a) Cartridges, practice ammunition must be packaged in pasteboard or other inside boxes, or in partitions designed to fit snugly in the outside packaging, or must be packed in metal clips. The partitions and metal clips must be so designed as to protect the primers from accidental injury. The inside boxes, partitions, and metal clips must be packaged in securely closed strong outside wooden or fiberboard boxes or metal packagings.

(1) Each package must be plainly marked "CARTRIDGES, PRACTICE AMMUNITION."

[Amdt. 173-6, 34 F.R. 7161, May 1, 1969]

§ 173.102 Explosive cable cutters; explosive power devices, class C; explosive release devices, or starter cartridges, jet engine, class C explosives.

(a) Explosive cable cutters, explosive power devices, class C, explosive release devices, or starter cartridges, jet engine, class C must be packed in specification containers as follows:

(1) Spec. 12H, 23F, or 23H (§§ 178.209, 178.214, or 178.219 of this chapter). Fiberboard boxes. Authorized gross weight not to exceed 65 pounds.

(2) In addition to specification containers prescribed in this section, explosive cable cutters, explosive power devices, class C, explosive release devices, or starter cartridges, jet engine, class C may be shipped when packed in strong wooden or metal boxes, or other containers approved by the Bureau of Explosives. Starter cartridges, jet engine, must have igniter wires short-circuited when packed for shipment.

(b) Each package must be plainly marked "EXPLOSIVE CABLE CUTTERS"; "EXPLOSIVE POWER DEVICES, CLASS C"; "EXPLOSIVE RELEASE DEVICES", or "STARTER CARTRIDGES, JET ENGINE, CLASS C EXPLOSIVES", as appropriate, and "HANDLE CAREFULLY—KEEP FIRE AWAY."

[29 FR 18683, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-6, 34 FR 7161, May 1, 1969]

§ 173.103 Blasting caps, blasting caps with safety fuse, blasting caps with metal clad mild detonating fuse, and electric blasting caps, not exceeding 1,000 caps.

(a) Blasting caps, blasting caps with safety fuse, blasting caps with metal clad mild detonating fuse, and electric blasting caps, in quantity not exceeding 1,000 caps, must be packed and marked as prescribed in §§ 173.66 and 173.67.

[29 FR 18683, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16066, Apr. 15, 1976]

§ 173.104 Cordeau detonant fuse, mild detonating fuse, metal clad or flexible linear shaped charges, metal clad.

(a) Cordeau detonant fuse, mild detonating fuse, metal clad or flexible linear shaped charges, metal clad must not be packed in the same package with detonators or with any high explosive.

(b) Cordeau detonant fuse, mild detonating fuse, metal clad or flexible linear shaped charges, metal clad, must be packed in wooden or fiberboard boxes.

(c) Each outside container must be plainly marked "CORDEAU DETONANT FUSE—HANDLE CAREFULLY," "MILD DETONATING FUSE, METAL CLAD—HANDLE CAREFULLY" or "FLEXIBLE LINEAR SHAPED CHARGES, METAL CLAD—HANDLE CAREFULLY" as the case may be.

§ 173.105 Percussion, tracer, combination, time fuzes and tracers.

(a) Percussion, tracer, combination, time fuzes and tracers must be packed in strong, tight, outside wooden boxes or spec. 23F (§ 178.214 of this subchapter) fiberboard boxes, with special provision for securing individual packages of fuzes or tracers against movement in the box.

(b) The gross weight of one outside wooden box must not exceed 150 pounds, and the gross weight of one outside fiberboard box must not exceed 65 pounds.

(c) Each outside container must be plainly marked with proper descriptive name and also "HANDLE CAREFULLY".

(d) No restrictions other than proper description, packing, and marking are prescribed in this part for the transportation of percussion, tracer, time, or combination fuzes, or tracers.

[29 FR 18683, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16066, Apr. 15, 1976]

§ 173.106 Cartridge bags, empty, with black powder igniters, igniters, safety squibs, electric squibs, delay electric igniters, igniter fuse-metal clad, and fuse lighters or fuse igniters.

(a) Cartridge bags, empty, with black powder igniters, igniters, safety squibs, electric squibs, delay electric igniters, igniter fuse-metal clad, and fuse lighters or fuse igniters must be packed in strong fiberboard or wooden boxes or wooden or metal barrels or drums properly described and properly marked with the name of the article packed therein.

§ 173.107 Primers, percussion caps, grenades, empty, primed, and cartridge cases, empty, primed.

(a) Primers (cannon, combination and small arms), percussion caps, and empty grenades, primed, must be packed in strong, tight, outside wooden boxes, except as otherwise provided herein, with special provision for securing individual packages against movement in the box.

(b) Empty cartridge cases, primed, must be packed in strong, tight, outside wooden or fiberboard boxes, or in specification packagings as follows:

(1) Specification 21C (§ 178.224 of this subchapter) fiber drum. Each drum must be constructed to the specification requirements for a drum containing at least 250 pounds net weight of contents. Each drum having a metal top or bottom must have a protective corrugated paperboard pad inserted between the contents and the metal.

(c) Small-arms primers containing anvils must be packed in cellular inside packages, with partitions separating the layers and columns of the primers, so that the explosion of a portion of the primers in the completed shipping package will not cause the explosion of all the primers. They must be packed as prescribed in paragraphs (a) of this section or in spec. 12B (§ 178.205 of this subchapter) fiberboard boxes, and equipped with corrugated fiberboard liners having Mullen or Cady test equal to or exceeding that of the box, except liner is not required for full depth telescope style box which may be closed as specified by § 178.205-17(a)(2) of this subchapter. Not more than 5,000 primers shall be packed in each fiberboard box.

(1) Spec. 23H (§ 178.219 of this subchapter). Fiberboard boxes of full depth telescope style with top section having extended end flaps and bottom section with extended side flaps designed to tuck under and form boxes without glued or stapled joints. Boxes shall have full height inside perimeter liner and top and bottom full area pads of double-wall corrugated fiberboard. Hand-holes oval in shape, not more than 1 inch in width by 4 inches in length and horizontal with top score line, are authorized in ends of boxes. Primers shall be packed in cellular inside packages with partitions separating the layers and columns of the primers as required by the introductory text of this paragraph. Not more than 50,000 primers shall be packed in one outside box.

(d) Percussion caps must be packed in metal or other inside boxes containing not more than 500 caps; the construction of the cap or packing and the kind and quantity of explosives in each must be such that the explosion of a part of the caps in the completed shipping package will not cause the explosion of all the caps.

(e) Small-arms primers and/or percussion caps may be packed with nonexplosive and/or nonflammable articles, or with small-arms ammunition as provided in § 173-101(b). Small-arms primers may be included with propellant explosives (solid), class B, in the same outside container as provided in § 173.93 (g)(1). The weight of the small-arms primers or percussion caps must not exceed 5 pounds in any such outside container.

(f) The gross weight of one outside package must not exceed 150 pounds.

(g) Each outside container must be plainly marked with proper descriptive name and also "HANDLE CAREFULLY".

(h) No restrictions other than proper shipping name, packing and marking are prescribed in this part for the transportation of percussion caps, cannon primers, small-arms primers, combination primers, empty cartridge cases primed, or empty grenades primed.

[29 FR 18683, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, as amended by Amdt. 173-73, 38 FR 20084, July 27, 1973; Amdt. 173-94, 41 FR 16066, Apr. 15, 1976]

§ 173.108 Common fireworks, signal flares, hand signal devices, smoke signals, smoke candles, smoke grenades, smoke pots, and Very signal cartridges.

(a) Class C explosives covered by this section must, unless otherwise specifically provided for, be securely packed in packages complying with the following specifications.

(1) [Reserved]

(2) Spec. 15A, 15B, 16A, or 19A (§§ 178.168, 178.169, 178.185, or 178.190 of this subchapter). Wooden boxes. Gross weight not to exceed 100 pounds, except gross weight of 500 pounds is authorized for Very signal cartridges only.

(3) Spec. 12B (§ 178.205 of this subchapter) Fiberboard boxes. Gross weight not to exceed 65 pounds.

(4) Firecrackers, Chinese, in addition to containers specified in paragraph (a) (1), (2), and (3) of this section, may also be transported in the package in which they are imported, provided these packages consist of wooden boxes, or fiberboard boxes, spec. 12B (§ 178.205 of this subchapter), in good condition, completely covered with strong matting and do not weigh more than 100 pounds, gross.

(5) Fireworks, such as sparklers, with match tip or head, or similar ignition point or surface, must have each individual tip, head, or similar ignition point or surface entirely covered and securely protected against accidental contact or friction.

(6) Signal flares may be packed with nonexplosive or nonflammable articles provided the outside packages are marked as prescribed in this section.

(b) [Reserved]

(c) Except as otherwise specified herein the gross weight of one outside package containing common fireworks must not exceed 100 pounds.

(d) Each outside package must be plainly marked in letters not less than seven-sixteenths of an inch in height "Common Fireworks," "Signal Flares," "Hand Signal Devices," "Smoke Signals," "Smoke Candles," "Smoke Pots," "Smoke Grenades," or "Very Signal Cartridges," as appropriate, and with the additional words "Handle Carefully—Keep Fire Away."

[29 FR 18683, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-56, 36 FR 21201, Nov. 4, 1971; Amdt. 173-81, 39 FR 17316, May 15, 1974; Amdt. 173-94, 41 FR 16066, Apr. 15, 1976]

§ 173.109 Toy caps.

(a) Toy caps must be packed in containers complying with the following specifications:

(1) Spec. 15A, 15B, 16A, or 19A (§§ 178.168, 178.169, 178.185, or 178.190 of this subchapter). Wooden boxes. Gross weight not to exceed 150 pounds.

(2) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes. Gross weight not to exceed 65 pounds.

(3) Toy caps, in addition to containers specified in subparagraphs (1) and (2) of this paragraph, may be transported in the package in which they are imported, provided the package consists of a wooden box, metal-lined, in good condition, and weighing not over 100 pounds gross. Inside packages must be as defined in § 173.100(p).

(b) Toy caps may be packed with nonexplosive or nonflammable articles provided the outside containers are marked as prescribed herein.

(c) Toy paper caps of any kind must not be packed with fireworks.

(d) Each outside container must be plainly marked "TOY CAPS—HANDLE CAREFULLY".

[29 FR 18683, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16066, Apr. 15, 1976]

§ 173.110 Charged oil well jet perforating guns, total explosive content in guns not exceeding 20 pounds per motor vehicle.

(a) Charged oil well jet perforating guns transported by motor vehicles operated by private carriers engaged in oil well operations in which the total weight of the explosive contents of shaped charges assembled to guns being transported does not exceed 20 pounds per such vehicle must be packed as prescribed in § 173.80 (b), (c), (d) and (e).

(b) Charged oil well jet perforating guns may be offered for transportation and transported only by private carrier by highway.

[29 FR 18683, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16066, Apr. 15, 1976]

§ 173.111 Cigarette loads, explosive auto alarms, toy propellant devices, toy smoke devices, trick matches, and trick noise makers, explosive.

(a) Cigarette loads, explosive auto alarms, toy propellant devices, toy smoke devices, trick matches, and trick noise makers, explosive must be packed in specification containers as follows:

(1) Spec. 15A, 15B, 16A, or 19A (§ 178.168, § 178.169, § 178.185, or § 178.190 of this subchapter). Wooden boxes. Gross weight not to exceed 150 pounds.

(2) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes. Gross weight not to exceed 65 pounds.

(3) Each outside container must be plainly marked with the proper descriptive name and "HANDLE CAREFULLY".

[29 FR 18683, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16066, Apr. 15, 1976]

§ 173.112 Oil well cartridges.

(a) Oil well cartridges must be so packed that the explosive composition does not exceed 20 grains per cubic inch of space in the outside shipping container and must be in specification containers as follows:

(1) Spec. 15A, 15B, 16A, or 19A (§ 178.168, § 178.169, § 178.185, or § 178.190 of this subchapter). Wooden boxes. Gross weight not to exceed 150 pounds.

(2) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes. Gross weight not to exceed 65 pounds.

(3) Each outside container must be plainly marked with the name "Oil Well Cartridge" and "HANDLE CAREFULLY".

[29 FR 18683, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16066, Apr. 15, 1976]

§ 173.113 Detonating fuzes, class C explosives.

(a) Detonating fuzes, class C explosives, must be packed in specification containers as follows:

(1) Spec. 12H (§ 178.209 of this subchapter). Fiberboard boxes without liners with well secured inside pasteboard cartons.

(2) In addition to specification containers prescribed in this section, detonating fuzes, class C explosive, may be packed in well secured strong, tight outside wooden or metal boxes. The gross weight of the outside wooden or metal box must not exceed 190 pounds.

(b) Each outside package must be plainly marked "DETONATING FUZES, CLASS C EXPLOSIVES—HANDLE CAREFULLY".

[29 FR 18683, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16066, Apr. 15, 1976]

§ 173.114 Actuating cartridges, explosive, fire extinguisher or valve.

(a) Actuating cartridges, explosive, fire extinguisher or valve must be packed in strong wooden or fiberboard boxes.

(b) Each outside container must be plainly marked "ACTUATING CARTRIDGES, EXPLOSIVE, FIRE EXTINGUISHER — HANDLE CAREFULLY" or "ACTUATING CARTRIDGES, EXPLOSIVE, VALVE—HANDLE CAREFULLY".

(c) When shipped as components with fire extinguisher or with valve and with not more than 2 cartridges for each extinguisher or valve, they are exempt from Parts 170-189 of this subchapter.

Subpart D—Flammable, Combustible, and Pyrophoric Liquids; Definitions and Preparation

SOURCE: 29 FR 18700, Dec. 29, 1964, unless otherwise noted. Redesignated at 32 FR 5606, Apr. 5, 1967.

§ 173.115 Flammable, combustible, and pyrophoric liquids; definitions.

(a) *Flammable liquid*. (1) For the purposes of this subchapter, a flammable liquid means any liquid having a flash point below 100° F. (37.8° C.), with the following exceptions:

(i) Any liquid meeting one of the definitions specified in § 173.300;

(ii) Any mixture having one component or more with a flash point of 100° F. (37.8° C.) or higher, that makes up at least 99 per cent of the total volume of the mixture;

NOTE 1: A flammable liquid with a flash point of 73° F. or higher in packaging having a capacity of 110 gallons or less packaged prior to January 1, 1976, may be shipped and transported without being subject to any of the requirements of this subchapter applicable to flammable liquids until January 1, 1977.

(2) For the purposes of this subchapter, a distilled spirit of 140 proof or lower is considered to have a flash point no lower than 73° F.

(b) *Combustible liquid*. (1) For the purposes of this subchapter, a combustible liquid is defined as any liquid that does not meet the definition of any other classification specified in this subchapter and has a flash point at or above 100° F. (37.8° C.) and below 200° F. (93.3° C.) except any mixture having one component or more with a flash point at 200° F. (93.3° C.) or higher, that makes up at least 99 per cent of the total volume of the mixture.

(2) For the purposes of this subchapter, an aqueous solution containing 24 per cent or less alcohol by volume is considered to have a flash point no less than 100° F. (37.8° C.) if the remainder of the solution does not meet the definition of a hazardous material as defined in this subchapter.

(3) 200° F. (93.3° C) is a limitation of the application of the regulations in this subchapter and should not be construed as indicating that liquids with higher flash points will not burn. Markings such as "NONFLAMMABLE" or "NONCOMBUSTIBLE" should not be used on a vehicle containing a material that has a flash point of 200° F. (93.3° C.) or higher.

(c) *Pyrophoric liquids*. (1) For the purposes of this subchapter, a pyrophoric liquid is any liquid that ignites spontaneously in dry or moist air at or below 130° F. (54.5° C.).

NOTE 1: The Bureau of Explosives is equipped to test samples of flammable liquids to determine whether or not they are pyrophoric.

(d) *Flash point*. (1) "Flash point" means the minimum temperature at which a liquid gives off vapor within a test vessel in sufficient concentration to form an ignitable mixture with air near the surface of the liquid and shall be determined as follows:

(i) For a homogeneous, single-phase, liquid having a viscosity less than 45 S.U.S. at 100° F. (37.8° C.) that does not form a surface film while under test, one of the following test procedures shall be used:

(A) Standard Method of Test for Flash Point by Tag Closed Tester, (ASTM D56-70);

(B) Standard Method of Test for Flash Point of Aviation Turbine Fuels by Setaflash Closed Tester, (ASTM D3243-73) or

(C) Standard Methods of Test for Flash Point of Liquids by Setaflash Closed Tester, (ASTM D3278-73).

(ii) For a liquid other than one meeting all of the criteria of subparagraph (d)(1)(i) of this paragraph, one of the following test procedures shall be used:

(A) Standard Method of Test for Flash Point by Pensky-Martens Closed Tester, (ASTM D93-71). Alternate tests authorized in this standard may be used.

(B) Standard Method of Test for Flash Point of Aviation Turbine Fuels by Setaflash Closed Tester, (ASTM D3243-73), or

(C) Standard Methods of Test for Flash Point of Liquids by Setaflash Closed Tester, (ASTM D3278-73).

(2) For a liquid that is a mixture of compounds that have different volatility and flash points, its flash point shall be determined as specified in paragraph (d)(1) of this section, on the material in the form in which it is to be shipped. If it is determined by this test that the flash point is higher than 20° F. (−6.67° C.) a second test shall be made on a sample of the liquid evaporated from an open beaker (or similar container), under ambient pressure and temperature (20 to 25° C.) conditions, to 90 percent of its original volume or for a period of 4 hours, whichever comes first. The lower flash point of the two tests shall be the flash point of the material.

(3) For flash point determinations by Setaflash closed tester, the glass syringe specified need not be used as the method of measurement of the test sample if a minimum quantity of 2 milliliters is assured in the test cup.

(e) "S.U.S." means Saybolt Universal Seconds as determined by the Standard Method of Test for Saybolt Viscosity (ASTM D88-56) (reapproved 1968) and may be determined by use of the S.U.S. conversion tables specified in ASTM Method D2161-66 following determination of viscosity in accordance with the procedures specified in the Standard Method of Test for Viscosity of Transparent and Opaque Liquids (ASTM D445-65).

(f) [Reserved]

(g) If experience or other data indicate that the hazard of a material is greater or less than indicated by the criteria specified in paragraphs (a), (b), and (c) of this section, the Department may revise its classification or make the material subject to the requirements of Parts 170-189 of this subchapter.

[Amdt. 173-78A, 40 FR 22264, May 22, 1975, as amended by Amdt. 173-94, 41 FR 16066, Apr. 15, 1976]

§ 173.116 Outage.

(a) Outage for packings of flammable liquids offered for transportation, except as otherwise provided in this part, must be as prescribed in paragraphs (b) to (h) of this section.

(b) Packagings must not be completely filled. For packagings of a capacity of 110 gallons or less, sufficient outage must be provided so that the packaging will not be liquid full at 130° F. (55° C).

(c) In packages containing alcohol, cologne spirits, high wines, or other distilled spirits of 150 proof or over, the vacant interior space must be the maximum permitted by the United States Internal Revenue regulations.

(d) Flammable liquids must not be loaded into domes of tank cars. If the dome of the tank car does not provide sufficient outage, then vacant space must be left in the shell to make up the required outage.

(e) Flammable liquids having vapor pressure of 16 pounds per square inch absolute at 100° F. or less must be so loaded in tank cars that the outage shall be not less than 2 percent.

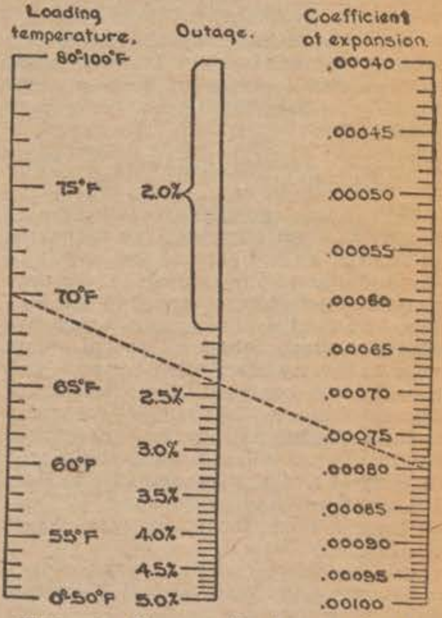
(f) Flammable liquids having a vapor pressure exceeding 16 pounds per square inch absolute at 100° F. for which minimum outage is not otherwise specifically provided herein, when loaded in uninsulated tank cars, must be so loaded that the minimum outage will be the greatest of the following values:

(1) Dome capacity.

(2) Two percent of total capacity of tank and dome.

(3) Outage as shown in paragraph (g) of this section.

(g) Outage chart for flammable liquids loaded in uninsulated tank cars:



Example: Suppose the temperature of the liquid at time of loading is 70° F. and its coefficient of expansion is 0.00080; lay a ruler on the chart running from 70° to 0.00080 as shown by the dotted line and the required outage is 2.4 percent where the ruler crosses the outage scale.

The following coefficients of expansion per degree Fahrenheit, of the principal flammable liquids shall be used in determining outages:

Acetone	0.00085
Amyl acetate	.00068
Benzol (benzene)	.00071
Carbon bisulfide	.00070
Ether	.00098
Ethyl acetate	.00079
Ethyl (grain) alcohol	.00062
Methyl (wood) alcohol	.00072
Toluol (toluene)	.00063
Gasoline or naphtha:	
50-55° A. P. I.[1]	.00055
55.1-60° A. P. I.[1]	.00060
60.1-65° A. P. I.[1]	.00065
65.1-70° A. P. I.[1]	.00070
70.1-75° A. P. I.[1]	.00075
75.1-80° A. P. I.[1]	.00080
80.1-85° A. P. I.[1]	.00085
85.1-90° A. P. I.[1]	.00090

[1] °A. P. I. (American Petroleum Institute), according to the following formula:

$$°\text{A.P.I.}=\frac{141.5}{\text{specific gravity}}-131.5$$

(h) No cargo tank or compartment thereof used for the transportation of any flammable liquid shall be liquid full. The vacant space (outage) in a cargo tank or compartment thereof used in the transportation of flammable liquids shall be not less than 1 percent; sufficient space (outage) shall be left vacant in every case to prevent leakage from or distortion of such tank or compartment by expansion of the contents due to rise in temperature in transit.

[29 FR 18700, Dec. 29, 1964, as amended by Order 67, 30 FR 7420, June 5, 1965. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16066, Apr. 15, 1976]

§ 173.117 Closing and cushioning.

(a) All containers must be tightly and securely closed. Inside containers must be cushioned as prescribed, or in any case when necessary to prevent breakage or leakage.

§ 173.118 Limited quantities of flammable liquids.

(a) Limited quantities of flammable liquids that do not meet the definition of another hazard class in this subchapter and for which exceptions are permitted as noted by reference to this section in § 172.101 of this subchapter, are excepted from labeling (except when offered for transportation by air) and specification packaging requirements of this subchapter when packed according to the following paragraphs. In addition, shipments are not subject to Subpart F of Part 172 of this subchapter, to Part 174 of this subchapter except § 174.24 and to Part 177 of this subchapter except § 177.817.

(1) In metal containers not over 1 quart capacity each, packed in strong outside containers,

(2) In containers having a capacity not over 1 pint or 16 ounces by weight each, packed in strong outside containers, or

(3) In inside containers having a rated capacity of one gallon or less when packed in strong outside containers. The provisions of this partial exemption apply only if the flash point of the material is 73° F. or higher and the flash point, or an indication that the flash point is 73° F. or higher is marked on the outside package.

(b) A flammable liquid that does not meet the definition of another hazard class and has a flash point of 73° F. or higher is not subject to the specification packaging requirements of this part when in packagings of 110 gallons or less. The provisions of this paragraph apply only if the flash point, or an indication that its flash point is 73° F. or higher, is marked on the outside package.

(c) Alcoholic beverages (wine and distilled spirits as defined in 27 CFR 4.10 and 5.11) in containers having a rated capacity of one gallon or less are not subject to the requirements of this subchapter.

(d) Special exceptions for shipment of certain flammable liquids in the ORM-D class are provided in Subpart N of this part.

[Amdt. 173-78A, 40 FR 22264, May 22, 1975 as amended by Amdt. 173-94, 41 FR 16066, Apr. 15, 1976; Amdt. 173-94A, 41 FR 40681, Sept. 20, 1976]

§ 173.118a Exceptions for combustible liquids.

(a) Unless otherwise stated for a specific material, the regulations in this subchapter do not apply to a material classed as a combustible liquid in a packaging having a rated capacity of 110 gallons or less.

(b) A combustible liquid in a portable tank, cargo tank or tank car is not subject to the requirements of this subchapter except those that pertain to:

(1) Shipping papers, waybills, switching orders, or other billing;

(2) Marking and placarding of portable tank;

(3) Placarding of tank car tanks and motor vehicles;

(4) Carriage aboard aircraft and vessels; and

(5) Reporting incidents as prescribed in §§ 171.15 and 171.16 of this subchapter.

[Amdt. 173-94, 41 FR 16067, Apr. 15, 1976]

§ 173.119 Flammable liquids not specifically provided for.

(a) *Flammable liquids with flash point 20°F. or below.* Flammable liquids with flash point 20° F. or below and having vapor pressure (Reid[1] test) not over 16 pounds per square inch, absolute, at 100° F., other than those for which special requirements are prescribed in this part, must be prepared for shipment in specification containers of a design and constructed of materials that will not react dangerously with or be decomposed by the chemical packed therein, as follows (see paragraphs (c) to (i) of this section for high pressure liquids, paragraphs (j) to (l) of this section for viscous liquids, and paragraph (m) of this section for flammable liquids which are also oxidizers, corrosive liquids, poison B liquids, or organic peroxides and § 173.134 for flammable liquids that are also pyrophoric liquids):

(1) Specification 1A, 1C, or 1D (§§ 178.1, 178.3, 178.4 of this subchapter). Glass carboys, boxed or in barrels or kegs, capacity not over 5 gallons, except capacity not over 6.5 gallons, authorized for Spec. 1D. Not authorized for transportation by air.

(2) Spec. 5, 5A, 5B, 5C, or 5M §§ 178.80, 178.81, 178.82, 178.83, or 178.90 of this subchapter). Metal barrels or drums, with openings not exceeding 2.3 inches in diameter.

(3) Specification 17E (§ 178.116 of this subchapter). Metal drums (single-trip) with openings not over 2.3 inches in diameter. Drums with a marked capacity of more than 5 gallons but not more than 30 gallons must be constructed of 19-gauge body and head sheets. Drums with a marked capacity in excess of 30 gallons must be constructed of 18-gauge body and head sheets. Drums with a marked capacity of more than 5 gallons are not authorized for transportation by air.

(4) Spec. 17C (§ 178.115 of this subchapter). Metal drums (single-trip), with openings not exceeding 2.3 inches in diameter.

(5) [Reserved]

(6) [Reserved]

(7) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with inside containers which must be glass or earthenware, not over 1 quart each; metal cans not over 1 gallon each.

NOTE 1: Spec. 12B fiberboard boxes (§ 178.205-26(a) of this subchapter), with one inside rectangular metal can, spec. 2F (§ 178.25 of this subchapter) not to exceed 5 gallons capacity, are authorized for gasoline only. Gross weight of completed package not over 65 pounds.

(8) Spec. 15A, 15B, 15C, 16A, 19A, or 19B (§§ 178.168, 178.169, 178.170, 178.185, 178.190, or 178.191 of this subchapter.) Wooden boxes with inside containers which must be metal pails, kits, or cans, not over 10 gallons each or inside glass or earthenware containers no over 1 gallon each, except that glass or earthenware containers up to 3 gallons each are authorized when only one inside container is packed in each outside container.

(9) Spec. 21C, 22A or 22B (§ 178.224, § 178.196 or § 178.197 of this subchapter). Fiber drums and plywood drums with a single inside glass, earthenware, or metal container of not over one gallon capacity in each drum. Inside container must be so cushioned at top, sides, and bottom, as to prevent breakage or leakage in transit.

(10) Spec. 42B, 42C, or 42H (§ 178.107, 178.108, or 178.112 of this subchapter). Aluminum barrels or drums.

(11) Cylinders as prescribed for any compressed gas, except acetylene.

(12) Specification 103,[1] 103W, 103-ALW, 103DW, 104,[1] 104W, 105A100,[1] 105A100ALW, 105A100W, 106A500X, 106A800XNC, 106A800NCI,[1] 109A100 ALW, 109A300W, 110A500W, 111A60ALW1, 111A60F1, 111A60W1, 111A100W3, 111A100W4, 111A100W6, 112A200W, 112A400F, 114A340W, 115A60W1, 115A60ALW, 115A60W6, ARA-III,[1] ARA-IV,[1] or ARA-IV-A[1] (§§ 179.100, 179.101, 179.200, 179.201, 179.220, 179.300, 179.301 of this subchapter). Tank cars. For cars equipped with expansion domes, manway closures must be so designed that pressure will be released automatically by starting the operation of removing the manway cover. Openings in tank heads to facilitate application of lining are authorized on tank cars constructed before January 1, 1975. These openings must be closed in an approved (§ 179.3 of this subchapter) manner.

(13) The use of spec. 103AL special riveted aluminum tank cars is authorized for the transportation of gasoline, ethyl acetate, acetone, methanol, or

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[1] ASTM Test D323.

[1] Use of existing tank cars authorized, but new construction not authorized.

butyraldehyde as provided in special orders of November 5, 1937 and February 1, 1939.

(14) Spec. 15X (§ 178.181 of this subchapter). Wooden boxes with inside metal containers. For shipment by common carriers by water to noncontiguous territories or possessions of the United States and foreign countries; shipments from inland points in the United States which are consigned to such destinations are authorized to be transported to ship side by rail freight in carload lots only and by motor vehicle in truckload lots only.

(15) Spec. 17X (§ 178.119 of this subchapter). Metal drums (single-trip). For countries; shipments from inland points in the United States which are consigned to such destinations are authorized to be transported to ship side by rail freight in carload lots only and by motor vehicle in truckload lots only.

(16) [Reserved]

(17) Specification MC 300, MC 301, MC 302, MC 303, MC 304, MC 305, MC 306, MC 307, MC 330,[1] or MC 331[1] (§§ 178.340, 178.341, 178.342, 178.337). Tank motor vehicles. Bottom outlets on specification MC 304 cargo tanks must be equipped with valves conforming with § 178.342-5(a). Bottom outlets on specifications MC 330 and MC 331 cargo tanks must be equipped with valves conforming with § 178.337-11(c).

(18) The use of existing tank cars constructed to specifications Emergency USG-A,[2] USG-B,[2] or USG-C[2] in effect prior to June 4, 1956 is authorized for the transportation of liquids weighing not over 8 pounds per gallon, and having vapor pressures not exceeding 16 pounds per square inch, absolute, at 100° F.

(19) Spec. 5L (§ 178.89 of this subchapter). Metal barrels or drums for gasoline shipments offered by or consigned to the Departments of the Army, Navy, and Air Force of the United States Government or Allies. Use of this container will be permitted because of the present emergency and until further order of the Department.

(20) Spec. 12D (§ 178.207 of this subchapter). Fiberboard boxes with inside containers which must be glass or earthenware not over one gallon each; authorized for not more than 75 pounds gross weight; not to contain more than 4 such inside containers if their capacity is greater than 5 pints each. Use of this container will be permitted because of the present emergency and until further order of the Department.

(21) Gasoline samples in boxes of metal not lighter than 20 gauge, United States standard, having hinged cover securely closed, and containing not more than 5 inside rectangular metal cans with screw cap closure, each having a capacity not to exceed ½ gallon, may be shipped when consigned to state laboratories for examination.

(22) Specification 17H or 37A (§§ 178.118 and 178.131 of this subchapter). Metal drums with inside glass packagings not over 9 pints capacity each. Inside containers may contain biological materials if these materials are not etiologic agents, except that etiologic agents exempt by § 173.386(d) are authorized.

(23) Spec. 12A (§ 178.210 of this subchapter). Fiberboard boxes, with inside glass bottles not over 1 gallon capacity each. Not more than four inside containers exceeding 5 pints capacity each shall be packed in the outside container. Shipper must have established that the completed package meets test requirement prescribed by § 178.210-10 of this subchapter.

(24) Spec. 6D (§ 178.102 of this subchapter). Cylindrical steel overpack with inside spec. 2S (§ 178.35 of this subchapter) polyethylene container.

(25) Spec. 51 (§ 178.245 of this subchapter). Portable tanks.

(b) *Flammable liquids with flash points above 20° F. to 73° F.* Flammable liquids with flash points above 20° F. to 73° F. and having vapor pressure (Reid[1] test) not over 16 pounds per square inch, absolute, at 100° F. other than those for which special requirements are prescribed in this part, must be packaged in packagings of a design and constructed of materials that will not react dangerously with or be decomposed by the chemical packed therein as follows (see paragraphs (c) through (i) of this section for high-pressure liquids and paragraph (m) of this section for flammable liquids which are also oxidizers, poison B liquids, organic peroxides or corrosive liquids):

(1) Containers as specified in paragraph (a) of this section, except that openings greater than 2.3 inches in diameter in barrels and drums are authorized when permitted by the specification, and also the following:

(2) Spec. 17E or 17H (§§ 178.116 or 178.118 of this subchapter). Metal drums (single-trip).

(3) Specification 10B (§ 178.156 of this subchapter). Wooden barrels or kegs. Authorized only for alcohol and alcohol-water-mixtures.

NOTE 1: Because of the present emergency and until further order of the Department, wooden whiskey barrels, properly recoopered, which comply with all the provisions of spec. 10B (§ 178.156 of this subchapter), are also authorized. Marking is required on the head of each container, by the reconditioner, by hot branding or legible stenciling, as follows: DOT-10B.

Name or symbol (letters) of reconditioner; this must be registered with the Bureau of Explosives and located just above, below, or following the mark DOT-10B.

Size of marking (minimum) ¾ inch high.

(4) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with inside containers which must be glass, earthenware, polyethylene (bags are not authorized), or metal, not over 1 gallon each. Packages containing inside glass or earthenware containers must not contain more than 4 such inside containers if their capacity is greater than 5 pints each. Polyethylene containers are authorized only for materials that will not react with or cause decomposition of the plastic.

NOTE 1: Because of the present emergency and until further order of the Department, fiberboard boxes, spec. 12B (§ 178.205-26(a) of this subchapter), with one inside rectangular metal can, spec. 2F (§ 178.25 of this subchapter), not to exceed 5 gallons capacity, are authorized. Gross weight of completed package not over 65 pounds.

(5) Spec. 12E (§ 178.208 of this subchapter). Fiberboard box with 1 or 2 rectangular metal inside containers of not over 5 gallons capacity each.

(6) Spec. 6K (§ 178.101 of this subchapter). Metal barrels or drums which must be constructed of Type 304 stainless steel, having heads with minimum convexity of ⅝ inch welded to the body, and be equipped at both heads with 12 gauge chime reinforcements. Body seams shall be welded. Drums shall be equipped with I-bar rolling hoops.

(7) Specification 37P (§ 178.133 of this subchapter). Steel drums with polyethylene liner (nonreusable container). Authorized only for materials that will not react with polyethylene and result in container failure. Not authorized for transportation by air.

(8) Specification 6D or 37M (nonreusable container) (§§ 178.102, 178.134 of this subchapter). Cylindrical steel overpack with an inside specification 2S or 2SL (§§ 178.35, 178.35a of this subchapter) polyethylene container. Authorized only for materials that will not react with polyethylene and result in container faliure.

(9) Spec. 21P (§ 178.225 of this subchapter). Fiber drum overpack with inside spec. 2S or 2SL (§ 178.35 or 178.35a of this subchapter) polyethylene container. Authorized only for materials that will not react with polyethylene and result in container failure.

(10) Specification 37D (§ 178.137 of this subchapter). Nonreusable steel drum authorized only for a commodity not exceeding 10 pounds per gallon.

(c) *Flammable liquids for which other special packing requirements are not prescribed.* Flammable liquids for which other special packing requirements are not prescribed in this part, must be shipped, depending upon their Reid[1] vapor pressures as prescribed in paragraphs (d) to (i) of this section.

(d) *When the vapor pressure does not exceed 16 pounds per square inch, absolute, at 100° F.* When the vapor pressure does not exceed 16 pounds per square inch, absolute, at 100° F., as prescribed in paragraphs (a) and (b) of this section.

(e) *When the vapor pressure exceeds 16 pounds per square inch, absolute, at 100° F.* When the vapor pressure exceeds 16 pounds per square inch, absolute, at 100° F., but does not exceed 27 pounds per square inch, absolute, at 100° F., flammable liquids must be packed in specification containers as follows:

(1) As prescribed in paragraphs (a) (1) to (11) of this section, except spec.

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[1] In addition to other requirements of this section, necessary interior cleaning of the tanks must be performed between changes in lading. Safety relief devices must be in accordance with specification MC 331 (§ 178.337).

[2] The use of existing tank cars authorized but new construction not authorized.

[1] ASTM Test D323.

17E (§ 178.116 of this subchapter). Bung labels required, for metal barrels and drums, as prescribed in paragraph (i) of this section.

(2) Specification 103,[1a] 103W, 103LW, 103DW, 104,[1a] 104W, 105A100,[1a] 105A100-ALW, 105A100W, 106A500X, 106A800-XNC, 106A800NCI,[1a] 109A100ALW, 109A-300W, 110A500W, 111A60ALW1, 111A60-F1, 111A60W1, 111A100W3, 111A100W4, 111A100W6, 112A200W, 112A400F, 114A340W, 115A60W1, 115A60W6, 115A-60ALW, ARA-III,[1] ARA-IV,[1] or ARA-IV-A[1] (§§ 179.100, 179.101, 179.200, 179.201, 179.220, 179.221, 179.300, 179.301 of this subchapter). Tank cars. Any car having an expansion dome must be equipped with a manway closure identification marks, and dome placards as described in paragraphs (f)(4), (g), and (h) of this section. Openings in tank heads to facilitate application of lining are authorized on tank cars constructed before January 1, 1975. These openings must be closed in an approved (§ 179.3 of this subchapter) manner (See Note 1 of paragraph (f)(3) of this section).

(3) Specification MC 304, MC 307, MC 330, or MC 331 (§§ 178.340, 178.342, 178.-337 of this subchapter). Tank motor vehicles. Necessary interior cleaning of the tanks must be performed between changes in lading. Each safety relief device must have a start-to-discharge pressure of not less than 25 p.s.i.g. Each tank must meet the following requirements as applicable:

(i) Bottom outlets on each specification MC 304 cargo tank must be equipped with valves conforming to the requirements of § 178.342-5(a) of this subchapter; and

(ii) Bottom outlets on each specification MC 330 and MC 331 cargo tank must be equipped with valves conforming to the requirements of § 178.337-11(c) of this subchapter. Safety relief devices on these tanks must be in accordance with specification MC 331 (§ 178.337 of this subchapter) requirements.

(4) Spec. 51 (§ 178.245 of this subchapter). Portable tanks.

(f) *When the vapor pressure exceeds 27 pounds per square inch, absolute, at 100° F.* When the vapor pressure exceeds 27 pounds per square inch, absolute, at 100° F., but does not exceed 40 pounds per square inch (see note 2), absolute, at 100° F., flammable liquids must be packed in specification containers as follows:

(1) Spec. 5, 5A, or 5P (§§ 178.80, 178.81, or 178.92 of this subchapter). Metal barrels or drums, with openings not exceeding 2.3 inches in diameter. Bung labels required as prescribed in paragraph (i) of this section.

(2) Cylinders as prescribed for any compressed gas except acetylene.

(3) Specification 105A100,[1] 105A100-ALW, 105A100W, 106A500X, 106A800-XNC, 106A800NCI,[1] 109A100ALW, 109A-300W, 110A500W, 111A100W4, 112A-200W, 112A400F, 114A340W, or ARA-IV-A[1] (§§ 179.100, 179.101, 179.200, 179.201, 179.300, 179.301 of this subchapter), (see Note 1 of this subparagraph). Tank cars. Specification 104,[1] 104W, 111A100W3, and ARA-IV[1] (§§ 179.200, 179.201 of this subchapter), tank cars are authorized under the conditions prescribed in paragraphs (f)(4), (g), and (h) of this section and Note 3 of this subparagraph. Openings in tank heads to facilitate application of lining are authorized on tank cars constructed before January 1, 1975. These openings must be closed in an approved (§ 179.3 of this subchapter) manner.

(4) Specification 103,[1] 103W, 103ALW, 104,[1] 104W, 111A60ALW1, 111A60F1, 111A60W1, 115A60W1, 115A60W6, 115A-60ALW, ARA-111,[1] or ARA-IV[1] (§§ 179.200, 179.201, 179.220, 179.221 of this subchapter). Tank cars. Each car must have its manway closure equipped with approved safeguards making the removal of the closure from the manway opening practically impossible while the car interior is subjected to vapor pressure of lading. The car must be stenciled on each side of the dome in line with the ladders, and in a color contrasting to the color of the dome, with identification marks as prescribed in paragraph (g) of this section.

NOTE 1: Tanks built in compliance with American Railway Association specifications for class IV-A[1] tank cars authorized for use effective October 1, 1925, may be continued in service for the transportation of ethyl chloride and other liquids which do not have a vapor pressure exceeding 28 pounds per square inch, gauge pressure, at 100 F., provided there is stenciled on each side of the tank immediately below the valve protecting housing the words "Liquids having vapor pressure exceeding 28 pounds per square inch at 100 F. must not be loaded into this tank" in letters and figures at least 1 inch high. These tank cars must be retested as prescribed in current spec. 105A100-W except that safety valves must open at pressure not exceeding 35 pounds, and be vapor tight at 28 pounds per square inch.

NOTE 2: When the vapor pressure exceeds 40 pounds per square inch, absolute, at 100° F., these flammable liquids are classed as flammable compressed gases and must be described, packed, and shipped as prescribed for such articles.

NOTE 3: Spec. 104[1] or 104-W or ARA-IV[1] tank cars are authorized provided that they are equipped with approved fittings designed to provide for the loading, unloading, gauging, sampling, and taking temperature of the contents without removing the manway closure; that safety valves are set to open at pressure of 35 pounds (with a tolerance of plus or minus 3 pounds), and are vapor tight at 28 pounds per square inch gauge pressure; that bottom discharge outlets are of the same type as authorized for specification 104[1] or 104-W tank cars; and that there is stenciled on each side of the tank above the specification mark, in letters and figures at least 1 inch high, "For vapor pressures not exceeding 40 pounds per square inch, absolute, at 100° F." Because of the present emergency and until further order of the Department, spec. ICC-104[1] or 104-W tank cars, equipped with safety valves set to open at pressure of 35 pounds (with a tolerance of plus or minus 3 pounds) and which are vapor tight at 28 pounds per square inch, gauge pressure, are authorized provided that they are stenciled as required above.

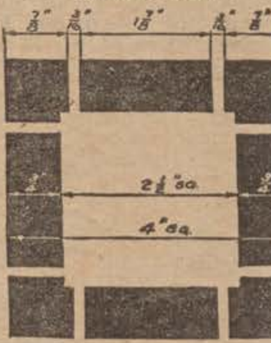
(4) Spec. 103,[1] 103-W, 103AL-W, 104,[1] 104-W, 111A60AL-W1, 111A60-F-1, 111A60-W-1, ARA-III,[1] or ARA-IV[1] (§§ 179.200, 179.201, of this subchapter). Tank cars. Cars must have their manway closures equipped with approved safeguards making removal of closures from manway openings practically impossible while car interior is subjected to vapor pressure of lading. These cars must be stenciled on each side of domes in line with the ladders, and in a color contrasting to the color of the dome, with the identification mark as prescribed in paragraph (g) of this section.

(5) Specification MC 304, MC 307, MC 330,[2] or MC 331[2] (§§ 178.340, 178.342, 178.337). Tank motor vehicles. Bottom outlets on specification MC 304 cargo tanks must be equipped with valves conforming with § 178.342-5(a). Bottom outlets on specifications MC 330 and MC 331 cargo tanks must be equipped with valves conforming with § 178.337-11(c).

(6) Spec. 51 (§ 178.245 of this subchapter). Portable tanks.

(g) *Manhole closure identification mark.*

(Reduced size)



(h) *Dome placards.* Specification 103,[1] 103ALW, 103W, 104,[1] 104W, 111A60ALW1, 111A60F1, 111A60W1, 115A60W1, 115A-60W6, 115A60ALW, ARA-III,[1] or ARA-IV[1] (§§ 179.200, 179.201, 179.220, 179.221 of this subchapter). Tank cars. Each car loaded with any material described in paragraph (e) or (f) of this section must, in addition to the "Dangerous" placards, be protected by special dome placards, at least 4⅜ by 10⅞ inches, with legible wording as follows:

[1a] The use of existing tank cars authorized but new construction not authorized.

[1] The use of existing tank cars authorized but new construction not authorized.

[1] The use of existing tank cars authorized but new construction not authorized.

[2] In addition to other requirements of this section, necessary interior cleaning of the tanks must be performed between changes in lading. Safety relief devices must be in accordance with specification MC 331 (§ 178.337).

DOME PLACARD

(Reduced Size)

(Black printing on white)

10¾ Inches

4½ Inches

AVOID ACCIDENTS

DO NOT REMOVE THIS DOME COVER
WHILE GAS PRESSURE EXISTS IN TANK

KEEP LIGHTED LANTERNS AWAY

NOTE 1: For tank car equipped with both inner and outer manhole covers, and when removal of inner cover is not necessary to unload the car, the word "inner" may be substituted for the word "this" in the dome placard.

(1) Dome placards must be applied one on each side of dome and one on the top near the manhole in line with the ladders. Dome placards may be of white paper securely pasted to the dome, or of strong tag board for use in suitable holders; or the wording of the dome placard may be stenciled on the dome of car and remain thereon as long as it is used in the service which requires these special placards.

(i) *Bung label.* A flammable liquid as described in paragraph (e) or (f) of this section, shipped in a metal drum or barrel, in addition to the FLAMMABLE LIQUID label, must be labeled near the bung with a white rectangular label or tag measuring 5 by 3 inches, bearing the wording as displayed below:

BUNG LABEL

(Reduced Size)

(Black printing on white)

5 Inches

3 Inches

CAUTION Unscrew This Bung SLOWLY

Do not unscrew entirely until all interior pressure has escaped through the loosened threads.

REMOVE BUNG IN OPEN AIR. Keep all open flame lights and fires away. Inclosed Electric Lights are safe.

(j) *Viscous flammable liquids.* Flammable liquids having a viscosity as determined by one of the methods prescribed in § 173.115(b) must be shipped in specification containers as prescribed in paragraph (k) or (l) of this section.

(k) *Viscous flammable liquids having a vapor pressure which does not exceed 16 pounds per square inch, absolute, at 100° F.* (See paragraphs (c) to (l) of this section for higher pressure liquids) must be prepared for shipment in containers as follows:

(1) As prescribed in paragraphs (a) or (b) of this section, irrespective of flash point.

(2) Spec. 6A, 6B, or 6C (§ 178.97, 178.98, or 178.99 of this subchapter). Metal barrels or drums.

(3) Specification 37A or 37B (§ 178.131, 178.132 of this subchapter). Metal drums (single-trip) not over 5 gallons with welded side seams. Not authorized for transportation by air.

(4) Spec. 42F (§ 178.110 of this subchapter). Aluminum barrels or drums.

(l) *Viscous flammable liquids with flash point above 20° F. to 73° F. and having a vapor pressure which does not exceed 18 pounds per square inch, absolute, at 100° F.* Viscous flammable liquids with flash point above 20° F. to 73° F. and having a vapor pressure which does not exceed 18 pounds per square inch, absolute, at 100° F. must be packaged as follows:

(1) As prescribed in paragraphs (e) to (l) of this section.

(2) Spec. 17E or 17H (§ 178.116 or § 178.118 of this subchapter). Metal drums (single-trip).

(m) *Flammable liquids which are also organic peroxides, oxidizers, corrosive liquids or poison B liquids.* A flammable liquid which is also an organic peroxide, oxidizer, corrosive liquid, or poison B liquid must be packed as follows:

(1) Specification 1A, 1D, or 1EX single-trip) (§ 178.1, 178.4, 178.6 of this subchapter). Glass carboys, boxed or in plywood drums, capacity not over 5 gallons for specification 1A. Not authorized for transportation by air.

(2) Spec. 15A, 15B, 15C, 16A, or 19A § 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with inside containers which must be glass or earthenware, not over 1 gallon each, cushioned with incombustible packing material in sufficient quantity to absorb the contents of the inner container.

(3) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with inside containers which must be glass or earthenware, not over 1 quart each, cushioned with incombustible packing material in sufficient quantity to absorb the contents of the inner container.

(4) Specification 5, 5A, 5B, 5C, 5P, 17C (single-trip), or 17E (single-trip) (§§ 178.80, 178.81, 178.82, 178.83, 178.92, 178.115, 178.116 of this subchapter). Metal barrels or drums. Removable head packagings over 16 gallons capacity are not authorized. Authorized only for materials which will not react dangerously with the drum metal, or be decomposed by contact with it.

(5) Specification 37P (§ 178.133 of this subchapter). Steel drums, not over 5 gallons capacity, with polyethylene liner (non-reusable container). Drums exceeding 1 gallon capacity must be constructed of at least 24-gauge metal. Authorized only for materials that will not react with polyethylene and result in container failure. Not authorized for transportation by air.

(6) Specification 12B (§ 178.205 of this subchapter). Fiberboard boxes with inside Specification 2E (§ 178.24a of this subchapter) polyethylene bottles not over 1-gallon capacity each. Not more than four 1-gallon polyethylene bottles shall be packed in one outside fiberboard box. Authorized only for material which will not react dangerously with or be decomposed by contact with polyethylene.

(7) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with one inside polyethylene bottle not over 5-gallons capacity, as specified by § 178.205-34 of this subchapter. Authorized only for material which will not react dangerously with or cause decomposition of polyethylene.

(8) Specification 12P (§ 178.211 of this subchapter). Fiberboard boxes with inside specification 2U (§ 178.24 of this subchapter) polyethylene containers not over 5 gallons capacity each. Authorized only for material which will not react dangerously with or cause decomposition of polyethylene. Not authorized for transportation by air.

(9) Cylinders as prescribed for any compressed gas, except acetylene. All cylinder valves must be protected by one of the methods described in § 173.301(g) (1), (2), or (3). See § 173.34 (e)(16).

(10) Specification MC 304: Tank motor vehicle meeting § 178.343-2(c) of this subchapter. If the cargo tank is constructed with bottom outlets, they must meet § 178.342-5(a) of this subchapter.

(11) Specification MC 307 (§§ 178.340, 178.342 of this subchapter). Tank motor vehicle meeting § 178.343-2(c) of this subchapter.

(12) Specification MC 310, MC 311, or MC 312 (§§ 178.340, 178.343 of this subchapter). Tank motor vehicles. If the cargo tank is constructed with bottom outlets, they must meet §§ 178.342-5(a) and 178.343-5 of this subchapter.

(13) Specification 103AW, 103A-ALW, 103ANW, 103BW, 103CW, 103EW, 111A100F2, 111A60ALW2, 111A60W2, 111A60W5 (§§ 179.200, 179.201 of this subchapter). Tank cars. All special requirements for tank cars according to flashpoint, vapor pressure, and viscosity in paragraphs (a) through (L) of this section apply.

(14) Specification 105A100W or 112-A200W (§§ 179.200, 179.201, 179.100, 179.101 of this subchapter). Tank cars. Authorized only for propylene oxide.

(15) Specification 103ALW, 103DW, 103W, 104W, 111A60ALW1, 111A60W1, 111A100W3, 111A100W6, 115A60W6, or AAR206W (§§ 179.200, 179.201, 179.220 of this subchapter). Tank cars. All special requirements for tank cars according to flashpoint, vapor pressure, and viscosity in paragraphs (a) through (L) of this section apply. (See Note 1.)

(16) Specification 6D or 37M (nonreusable container) (§§ 178.102, 178.134 of this subchapter). Cylindrical steel overpacks with an inside specification 2S or 2SL (§§ 178.35, 178.35a of this subchapter) polyethylene container. Authorized only for materials that will not react with polyethylene and result in container failure.

(17) Specification 6D or 37M (nonreusable container) (§§ 178.102, 178.134 of this subchapter). Cylindrical steel overpacks with an inside specification 2U (§ 178.24 of this subchapter) polyethylene container, not over 5 gallons capacity. Authorized only for materials that will not react with polyethylene and result in container failure.

NOTE 1: Authorized only on an interim basis pending the Department's decision on use of bottom outlets for tank cars containing hazardous materials.

[29 FR 18700, Dec. 29, 1964, as amended by Order 66, 30 FR 5744, Apr. 23, 1965; Order 71, 31 FR 9070, July 1, 1966. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–11, 34 FR 12590, Aug. 1, 1969; Amdt. 173–26, 35 FR 7700, May 19, 1970; Amdt. 173–54, 36 FR 18469, Sept. 15, 1971; Amdt. 173–57, 36 FR 21288, Nov. 5, 1971; Amdt. 173–58, 36 FR 21340, Nov. 6, 1971; Amdt. 173–59, 36 FR 21344, Nov. 6, 1971; Amdt. 173–57, 36 FR 21817, Nov. 16, 1971; Amdt. 173–62, 37 FR 9222, May 6, 1972; Amdt. 173–64, 37 FR 14587, July 21, 1972; Amdt. 173–67; 37 FR 20555, Sept. 30, 1972; Amdt. 173–70, 38 FR 5308, Feb. 27, 1973; Amdt. 173–74, 38 FR 20838, Aug. 3, 1973; Amdt. 173–77, 38 FR 35470, Dec. 28, 1973; Amdt. 173–78, 39 FR 2770, Jan. 24, 1974; Amdt. 173–80, 39 FR 15035, Apr. 30, 1974; Amdt. 173–81, 39 FR 17316, May 15, 1974; 39 FR 22426, June 24, 1974; Amdt. 173–82, 39 FR 24910, July 8, 1974; Amdt. 173–94, 41 FR 16067, Apr. 15, 1976]

§ 173.120 Automobiles, motorcycles, tractors, or other self-propelled vehicles.

(a) Automobiles, motorcycles, tractors, or other self-propelled vehicles, equipped with flammable liquid fuel tanks, provided these tanks are securely closed, are not subject to any other requirements for transportation by rail or highway. For transportation by air see paragraph (d) of this section.

(b) *Engines or motors (internal combustion)*. Engines or motors (internal combustion) employing liquid fuel classed as flammable liquid in this chapter, whether shipped separately or as a part of other apparatus, unless specifically exempt in paragraph (a) of this section, must have their fuel tanks completely drained. Fuel may be left in the carburetor, fuel pump, and fuel lines provided the total flammable fuel content does not exceed 16 ounces and provided the lines are tightly closed to prevent leakage of the fuel.

(c) *Truck bodies or trailers on flat cars*. Truck bodies or trailers with automatic heating or refrigerating equipment of the flammable liquid type may be shipped with fuel tanks filled and equipment operating or inoperating, when used for the transportation of other freight and loaded on flat cars as part of a joint rail-highway movement, provided the equipment and fuel supply are of a type approved by the Bureau of Explosives. The heating or refrigerating units are not subject to any other requirements of this subchapter and are considered as carriers' equipment, not as shipments.

(d) Except as provided in § 175.305 of this subchapter, each automobile, motorcycle, tractor, or other self-propelled vehicle, powered by an internal combustion engine fueled by a flammable or combustible liquid, when offered for transportation by air, must have the fuel tank drained of all fuel and have the tank opening tightly closed.

[29 FR 18700, Dec. 29, 1964. Redesignated 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–94, 41 FR 16067, Apr. 15, 1976]

§ 173.121 Carbon bisulfide (disulfide).

(a) Carbon bisulfide must be packed in specification containers as follows:

(1) [Reserved]

(2) Spec. 12A or 12B (§ 178.210 or 178.205 of this subchapter). Fiberboard **boxes with inside containers which must be glass or earthenware, not over 1 pint each, or metal cans, not over 1 quart each. Outside containers not to exceed** 65 pounds gross weight.

(3) Spec. 15A, 15B, 15C, 16A, or 19A (§ 178.168, 178.169, 178.170, 178.185 or 178.190 of this subchapter). Wooden boxes with inside metal containers, spec. 2A (§ 178.20 of this subchapter); or with inside glass or earthenware containers not over 5 pints capacity each.

(4) Spec. 17E (§ 178.116 of this subchapter). Metal drums (single-trip) not over 5 gallons capacity each, with openings not exceeding 2.3 inches in diameter.

(5) Spec. 5, 5A, or 17C (single-trip) (§ 178.80, 178.81, or 178.115 of this subchapter). Metal barrels or drums not over 55 gallons capacity each, with openings not exceeding 2.3 inches in diameter.

(6) Tank cars as prescribed in § 173.119(a) (12). (See § 173.432 for shipping instructions.)

[29 FR 18700, Dec. 29, 1964. Redesignated, 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173–81, 39 FR 17317, May 15, 1974; Amdt. 173–94, 41 FR 16067, Apr. 15, 1976]

§ 173.122 Acrolein, inhibited.

(a) Acrolein must be inhibited when shipped, and when offered for transportation must be packaged as follows:

(1) Spec. 5, 5A, or 5B (§ 178.80, 178.81, or 178.82 of this subchapter). Metal drums not over 55 gallons capacity each. Spec. 5 or 5B drums must have no opening exceeding 2.3 inches in diameter.

(2) Spec. 15A, 15B, 15C, 16A, or 19A (§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with inside metal containers, spec. 2A (§ 178.20 of this subchapter), not over 5 gallons capacity each.

(3) Specification 105A300W (§§ 179.100, 179.101 of this subchapter) tank car.

(i) Each tank car must be stenciled DOT–105A200W, and must be equipped with the 150 psig safety relief valve required by that specification.

(ii) Each tank car must be marked "ACROLEIN" in accordance with the requirements of § 172.330 of this subchapter.

(4) Spec. 17C (§ 178.115 of this subchapter). Metal drums (single-trip) with chime reinforcement for bottom head chime seam and having fixed heads, not over 55 gallons capacity. The openings shall be located in one head and shall not exceed 2.3'' in diameter.

(5) Specification 4B240, 4BA240, or 4BW240 (§§ 178.50, 178.51, 178.61 of this subchapter) welded cylinders each having a water capacity not exceeding 500 pounds.

(6) Specification 51 (§ 178.245 of this subchapter) portable tanks each having a water capacity not exceeding 425 gallons.

(b) Acrolein must be inhibited and when offered for transportation by rail express must be packed in specification containers as follows:

(1) Spec. 15A, 15B, 15C, 16A, 19A, or 12B (§ 178.168, § 178.169, § 178.170, § 178.185, § 178.190, or § 178.205 of this subchapter). Wooden or fiberboard boxes having not more than one inside container of glass not exceeding one quart capacity, securely cushioned within a metal container.

[29 FR 18700, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–43, 36 FR 1472, Jan. 30, 1971; Amdt. 173–94, 41 FR 16067, Apr. 15, 1976]

§ 173.123 Ethyl chloride.

(a) Ethyl chloride must be packed in specification containers as follows:

(1) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with glass, earthenware, or metal inside containers not over 1 pound capacity each.

(2) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with glass, earthenware, or metal inside containers not over 1 pound capacity each. Outside containers not to exceed 65 pounds gross weight.

(3) Spec. 5A (§ 178.81 of this subchapter). Metal barrels or drums not over 33 gallons capacity each.

(4) Cylinders as prescribed for any compressed gas, except acetylene.

(5) Specification 105A100,[1] 105A100W, 111A100W4, 112A200W, 112A400F, 114A340W, or ARA-IV-A [1] (§§ 179.100, 179.101 of this subchapter). Tank cars. Specification 114A340W tank cars must not be equipped with any bottom outlet. Bottom washout permitted. See Note 1 following § 173.119(f) (3). (See § 173.432 for shipping instructions.)

(6) Specification MC 330 or MC 331 (§ 178.337). Tank motor vehicles. Tank bottom outlets must be equipped with valves conforming with § 178.337–11(c).

(7) Specification 51 (§ 178.245 of this subchapter) portable tanks.

(b) Outage for all containers except tank cars must be 7.5 percent or more at 70° F. Outage for tank cars must be 4.2 percent or more at 70° F.

(c) Maximum quantity in one package for cargo-only aircraft is limited to 300 pounds in cylinders and 15 pounds in other packagings.

[29 FR 18700 Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–11, 34 FR 12590, Aug. 1, 1969; Amdt. 173–26, 35 FR 7700, May 19, 1970; Amdt. 173–80, 39 FR 15035, Apr. 30, 1974; 39 FR 16887, May 10, 1974; Amdt. 173–94, 41 FR 16068, Apr. 15, 1976]

§ 173.124 Ethylene oxide.

(a) Ethylene oxide must be packed in specification containers as follows and copper or copper bearing alloys shall not be used in any part of a container, container valve or other container appurtenance if that part is normally in contact with ethylene oxide liquid or vapor.

(1) Spec. 15A, 15B, 15C, or 16A (§§ 178.168, 178.169, 178.170, or 178.185 of this subchapter) wooden boxes and Spec. 12B (§ 178.205 of this subchapter) fiber-

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[1] The use of existing tank cars authorized but new construction not authorized.

board boxes, with metal inside containers not over 12-ounce capacity each. Each inside container must have a minimum bursting strength of 180 psig as prepared for shipment and be provided with a safety vent having a minimum diameter of 0.1023 inch and closed with fusible metal having a yield temperature of 157 to 170° F. The safety vent opening shall be hot tinned before filling with fusible metal. Filling shall be such that the container will not be liquid full below 185° F. Each inside container must be completely insulated, except for top closure, with two coats of heat-retardant paint, of type approved by the Bureau of Explosives, applied over suitable primer and finished with suitable waterproof paint; or with other equally efficient insulation approved by the Bureau of Explosives. Not more than 12 inside containers nor more than one layer of containers may be packed in one outside container.

(2) Cylinders as prescribed for any compressed gas, except acetylene, not exceeding 30 gallons nominal water capacity, which meet the following requirements. All cylinders must be seamless or steel welded. Cylinders must be equipped with safety devices of the fusible plug type with threaded straight bore orifice, with yield temperature of 157° to 170° F. having a minimum vent area of 0.0055 square inch per pound of water capacity of the container for containers not over 1-gallon capacity and 0.0012 square inch per pound of water capacity of the container for all containers over 1-gallon capacity. Each cylinder must be tested for leakage at a pressure of at least 15 p.s.i. gauge with an inert gas before each refilling. Filling must be such that the container will not be liquid full at 185° F. Pressurizing valves must be provided for all containers over 1-gallon capacity. Eductor tubes must be provided for all containers over 5-gallon capacity. Cylinders having a water capacity in excess of 1 gallon must be insulated with at least three coats of heat-retardant paint, of a type approved by the Bureau of Explosives, applied over suitable primer and finished with suitable waterproof paint; or with other equally efficient insulation approved by the Bureau of Explosives.

(3) In addition to specification containers prescribed in this section, ethylene oxide may be shipped when packed in strong incombustible outside containers, with inside containers which must be securely sealed glass ampules or vials, contents not over 100 grams each, cushioned in vermiculite or equally efficient incombustible cushioning material. Not more than 100 grams of ethylene oxide shall be packed in any such outside container.

(4) Spec. 5P. Lagged steel drums not over 61 gallons capacity each. Drums must be equipped with safety devices of the fusible plug type with threaded straight bore orifice, with yield temperature of 157 to 170° F. having a minimum vent area of 0.0055 square inch per pound of water capacity of the container for containers not over 1 gallon capacity and 0.0012 square inch per pound of water capacity of the container for all containers over one gallon capacity. Each drum must be tested for leakage at a pressure of at least 15 p. s. i. gauge with an inert gas before each refilling; top head of each drum must be plainly marked with paint "Keep This End Up." Filing shall be such that the container will not be liquid full below 185° F. and the maximum filling for 61 gallon drums must not exceed 55 gallons of ethylene oxide at 60° F.

(5) Specification 105A100W or 111A100W4 (§§ 179.100, 179.200 of this subchapter) tank car. Each 105A***W series tank car must be equipped with a 75 p.s.i.g. safety valve and must be stenciled 105A100W. Each tank car must be stenciled, in letters not less than 1½ inches high, "ETHYLENE OXIDE ONLY" near the car specification number. Outage of each tank must be sufficient to prevent the tank from becoming entirely filled with liquid at 105° F. Each tank, loaded or empty, must be padded with dry nitrogen or other suitable dry inert gas in sufficient quantity to render the vapor phase in the tank nonflammable at a temperature up to 105° F. Consideration must be given to the lading temperature and the solubility of the gas in ethylene oxide as well as the partial pressure required of the padding gas used to provide this protection. The gas must be free of impurities which may cause the ethylene oxide to rearrange chemically or to polymerize, decompose, or undergo other violent chemical reaction. See §§ 179.102-12 and 179.202-18 of this subchapter for special requirements for tank cars authorized for ethylene oxide. Openings in tank heads to facilitate application of nickel lining are authorized on tank cars constructed before January 1, 1975. These openings must be closed in an approved (§ 179.3 of this subchapter) manner (See Note 1 of § 173.119(f)(3)).

(i) Each tank car must be marked "ETHYLENE OXIDE" in accordance with the requirements of § 172.330 of this subchapter.

(6) Specification 51 (§ 178.245 of this subchapter) portable tank. Each tank, loaded or empty, must be padded with dry nitrogen or other suitable dry inert gas in sufficient quantity to render the vapor phase in the tank nonflammable at a temperature up to 105° F. Consideration must be given to the lading temperature and the solubility of the gas in ethylene oxide as well as the partial pressure required of the padding gas used to provide this protection. The gas must be free of impurities which may cause the ethylene oxide to rearrange chemically or to polymerize, decompose, or undergo other violent chemical reaction. Each tank must be constructed to be in compliance with the following requirements:

(i) The tank must be insulated with mineral wool or glass fiber of sufficient thickness so that the thermal conductance at 60°F. is not more than 0.075 B.t.u. per hour, per square foot, per degree Fahrenheit temperature differential. When a tank is equipped with fusible plugs instead of a safety relief valve or frangible disc, insulation must meet the requirements of paragraph (a)(6)(iii) of this section.

(ii) The insulating material of the tank must be protected by a steel jacket having a minimum thickness of 12 gauge. This jacket must be applied to prevent moisture from coming in contact with the insulation.

(iii) Each tank must be equipped with a safety relief valve or frangible disc, meeting the requirements of § 173.315, set to relieve at 75 p.s.i.g. Instead of a safety relief valve or frangible disc, a tank may be equipped with safety devices of the fusible plug type with threaded straight base oriface, with yield temperature of 157° to 170°F., having a minimum vent area of 0.0012 square inch per pound of water capacity of the container. When a fusible plug is used instead of a safety relief valve or frangible disc, the tank must be insulated with mineral wool or glass fiber of such insulating properties and required additional thickness that the tank filled as for shipment will not rupture in a fire

(iv) Filling must be such that the tank will not be liquid full below 185°F.

(v) Copper, silver, mercury, magnesium, or their alloys may not be used in any part of the tank or appurtenances if that part or appurtenance is normally in contact with ethylene oxide liquid or vapor.

(vi) Neoprene, natural rubber, and asbestos gaskets are prohibited. All packings and gaskets must be constructed of materials which do not react spontaneously with or lower the autoignition temperature of ethylene oxide.

(vii) The capacity of the tank may not exceed 300 gallons.

(b) The maximum quantity in one package for cargo-only aircraft is limited to 300 pounds in cylinders and 15 pounds in other packagings.

[29 FR 18700, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-11, 34 FR 12590, Aug. 1, 1969; Amdt. 173-82, 39 FR 24910, July 8, 1974; Amdt. 173-94, 41 FR 16068, Apr. 15, 1976]

§ 173.125 Alcohol, n.o.s. (flammable liquid).

(a) Except as otherwise provided in this Part, alcohol, n.o.s., which is classed as a flammable liquid must be packaged as follows:

(1) In containers as prescribed in § 173.119 (a) and (b).

(2) Securely closed metal tanks of not exceeding 16 gallons capacity, made of metal not lighter than 20 gauge, United States standard, packed in strong outside wooden boxes, may be used for the transportation of natural history or laboratory specimens preserved in alcohol, when shipped by or for the United States Government.

(3) [Reserved]

(4) [Reserved]

(5) Spec. 6D (§ 178.102 of this subchapter). Cylindrical steel overpack with inside spec. 2S (§ 178.35 of this subchapter) polyethylene container.

(6) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with inside polyethylene bottles, not over 1-gallon capacity each, suitably cushioned to prevent movement within the box.

(7) Specification 12P (§ 178.211 of this subchapter). Fiberboard box with inside Specification 2U (§ 178.24 of this subchapter) polyethylene container not over 5 gallons capacity each. Wire staples are not authorized for assembly or closure of boxes, except when polyethylene container is completely enclosed in inside boxes free of wire staples or other projections that could cause failures. Not authorized for transportation by air.

[29 FR 18700, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16068, Apr. 15, 1976]

§ 173.126 Nickel carbonyl.

(a) Nickel carbonyl must be packed in specification cylinders as prescribed for any compressed gas, except acetylene. Cylinders used exclusively for nickel carbonyl may be given a complete external visual inspection at the time periodic retest becomes due in lieu of the interior hydrostatic pressure test required by § 173.34(e). Visual inspection must be in accordance with CGA Pamphlet C-6.

[29 FR 18700, Dec. 29, 1964, as amended by Order 71, 31 FR 9070, July 1, 1966. Redesignated at 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173-16, 34 FR 18248, Nov. 14, 1969; Amdt. 173-94, 41 FR 16068, Apr. 15, 1976]

§ 173.127 Nitrocellulose or collodion cotton, fibrous or nitrostarch, wet; nitrocellulose flakes; colloided nitrocellulose, granular, flake, or block, and lacquer base or lacquer chips, wet.

(a) Nitrocellulose, fibrous, wet with alcohol or solvent, must contain at least 25 percent by weight of alcohol or a solvent with flash point not lower than 30° F.; collodion cotton, fibrous and nitrostarch, wet with alcohol or a solvent, must contain at least 30 percent by weight of alcohol or a solvent with flash point not lower than 30° F.; nitrocellulose flakes; colloided nitrocellulose, granular or flake; lacquer base or lacquer chips, wet with alcohol or a solvent, must contain at least 20 percent by weight of alcohol or a solvent with flash point not lower than 30° F., and nitrocellulose blocks wet with alcohol must contain at least 25 percent by weight of alcohol and must be packed in specification containers as follows:

(1) Containers, except cargo tanks or tank cars, as prescribed in § 173.119.

(2) Spec. 6A, 6B, 6C, or 6J (§ 178.97, § 178.98, § 178.99, or § 178.100 of this subchapter). Metal barrels or drums not over 55 gallons capacity. Spec. 6J (§ 178.100 of this subchapter) drums must have removable heads of 14 gauge metal or 16 gauge metal with one or more corrugations near the periphery and heads must have a minimum convexity of ⅜ inch; each drum must have three rolled or swedged-in hoops, one of which shall be in the body near the curl.

(3) Spec. 42F (§ 178.110 of this subchapter). Aluminum barrels or drums. Authorized only for nitrocellulose or collodion cotton, fibrous, wet, or colloided nitrocellulose, granular or flake, wet.

(4) Spec. 37A or 37B (§ 178.131 or § 178.132 of this subchapter). Metal barrels or drums.

(5) Spec. 6J (§ 178.100 of this subchapter). Metal drums. Authorized only for nitrocellulose in solid block forms and wet with alcohol to not less than 25 percent by weight. Authorized only for carload or truckload shipments.

(b) Except for spec. 37A which is limited to 480 pounds, gross weight of any container must not exceed 490 pounds.

[29 FR 18700, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16068, Apr. 15, 1976]

§ 173.128 Paints and related materials (flammable liquids).

(a) Except as otherwise provided in this Part, a flammable liquid which is a paint, enamel, lacquer, stain, shellac, varnish, liquid aluminum, liquid bronze, liquid gold, liquid wood filler, liquid lacquer base or a thinning, reducing, or removing compound therefor, or a liquid drier therefor, must be packaged as follows:

(1) As prescribed in § 173.119, according to flash point, pressure, or viscosity.

(2) Specification 37A or 37B (§ 178.131, § 178.132 of this subchapter). Metal drums (single-trip) not over 5 gallons capacity, with welded side seams for drums over 2 gallons capacity, irrespective of flash point or viscosity. Specification 37A metal drums constructed with 26-gauge body sheets, 24-gauge removable heads, and 26-gauge bottom heads are authorized for not over 80 pounds gross weight. Not authorized for transportation by air.

(3) Specifications 52,[1] or 57 (§§ 178.251, 178.253 of this subchapter). Metal portable tank. Not authorized for transportation by water.

(4) Specification 37C (§ 178.135 of this subchapter). Metal drums (non-reusable containers) not over 5 gallons capacity each. Authorized only for materials having flash point above 20° F. Not authorized for transportation by air.

(b) [Reserved]

(c) The flammable liquids identified in paragraph (a) of this section, in glass packagings of not over 1 quart capacity each, or in metal packagings of not over 5 gallons capacity each, further overpacked in a strong outside packaging are excepted from the specification packaging requirements of this Part.

[29 FR 18700, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173-20, 35 FR 5550, Apr. 3, 1970; Amdt. 173-60, 37 FR 3524, Feb. 17, 1972; Amdt. 173-81, 39 FR 17317, May 15, 1974; Amdt. 173-84, 39 FR 33532, Sept. 18, 1974; Amdt. 173-94, 41 FR 16068, Apr. 15, 1976]

§ 173.129 Polishes (flammable liquids).

(a) Except as otherwise provided in this Part, a flammable liquid which is a metal, stove, furniture, or wood polish must be packaged as follows:

(1) As prescribed in § 173.119, according to flash point, pressure, or viscosity.

(2) Specification 37A or 37B (§§ 178.131, 178.132 of this subchapter). Metal (single-trip) not over 5 gallons capacity with welded side seams, irrespective of flash point or viscosity. Not authorized for transportation by air.

(b) Liquid metal, stove, furniture, and wood polish, in glass packagings not over 1 quart capacity each, or metal packagings not over 5 gallons each, further overpacked in a stong outside packaging is excepted from the specification packaging requirements of this part.

[29 FR 18700, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16068, Apr. 15, 1976]

§ 173.130 Refrigerating machines.

Refrigerating machines assembled for shipment and containing limited quantities of 15 pounds or less of a flammable liquid for their operation are excepted from labeling and the specification packaging requirements of this subchapter (except when offered for transportation by air). In addition, shipments are not subject to subpart F of Part 172 of this subchapter, to Part 174 of this subchapter except § 174.24 and to Part 177 of this subchapter except § 177.817.

[Amdt. 173-94, 41 FR 16068, Apr. 15, 1976, as amended by Amdt. 173-94A, 41 FR 40681, Sept. 20, 1976]

§ 173.131 Road asphalt, or tar, liquid.

(a) Road asphalt, or tar, liquid, must be packed in specification containers as follows:

(1) As prescribed in § 173.119, according to flash point, pressure, or viscosity.

(2) If the material has a flash point of 73° F. or higher, it may be transported in a nonspecification cargo tank that is at least equivalent in design and construction to specification MC 306 (§§ 178.340, 178.341 of this subchapter) except for the requirements of §§ 178.340-10, 178.341-3, 178.341-4, and 178.341-5.

[29 FR 17800, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173-92, 40 FR 59598, Dec. 29, 1975]

§ 173.132 Cement liquid, n.o.s.; container cement; linoleum cement; pyroxylin cement; rubber cement; tile cement; wallboard cement; coating solution (flammable liquids).

(a) Except as otherwise provided in this part, a flammable liquid which is a liquid cement, n.o.s. container cement, linoleum cement, pyroxylin cement, rubber cement, tile cement, wallboard cement, or coating solution must be packaged as follows:

(1) As prescribed in § 173.119, irrespective of flash point or viscosity.

(2) Specification 52,[1] or 57 (§§ 178.251, 178.153 of this subchapter). Metal portable tank. Authorized for materials irrespective of flash point but only those defined as viscous liquids. Not authorized for transportation by water.

(3) Specification 37C (§ 178.135 of this subchapter). Metal drums (non-reusable container) not over 5 gallons capacity each. Authorized only for materials having flash point above 20° F. Not authorized for transportation by air.

(b) The cements identified in paragraph (a) of this section, except any cement containing carbon bisulfide, in glass or leakproof packagings consisting of a fiberboard body and metal tops and bottoms of not over 1 quart capacity each, or metal packagings of not over 5 gallons capacity each, further overpacked in a strong outside packaging are excepted from the specification packagings requirements of this part.

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[1] Use of existing tanks authorized. Construction not authorized after May 31, 1972.

[1] Use of existing tanks authorized. Construction not authorized after May 31, 1972.

[29 FR 18700, Dec. 29, 1964, as amended by Order 66, 30 FR 5744, Apr. 23, 1965. Redesignated at 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173-60, 37 FR 3524, Feb. 2, 1972; Amdt. 173-94, 41 FR 16068, Apr. 15, 1976]

§ 173.133 Spirits of nitroglycerin.

(a) Spirits of nitroglycerin must consist of not over 10 percent by weight of nitroglycerin in ethyl alcohol. Solutions of nitroglycerin must consist of not over 10 percent by weight of nitroglycerin in acetone. They must be packed in specification containers as follows:

(1) Spec. 15A, 15B, 15C, 16A, or 19A (§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes lined with paraffined paper, spec. 2L (§ 178.30 of this subchapter), and with metal inside containers, securely closed with rubber stoppers tied in place. The inside containers must be entirely surrounded by at least 2 inches of dry, fine sawdust or kieselguhr. There must be not over 6 quarts of the mixture in each outside container.

(b) Spirits of nitroglycerin consisting of not over 1 percent by weight of nitroglycerin in ethyl alcohol, in addition to containers specified in paragraph (a) (1) of this section, may be packed in specification containers as follows:

(1) Spec. 15A, 15B, 15C, 16A, or 19A (§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes, with glass inside containers not over 1 quart capacity each, cushioned by at least 2 inches of dry, fine sawdust or kieselguhr.

[29 FR 18700, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16068, Apr. 15, 1976]

§ 173.134 Pyroforic liquids, n.o.s.

(a) Pyroforic liquids, n.o.s., must be packed in specification containers, or in devices or apparatus approved by the Bureau of Explosives, as follows:

(1) Cylinders as prescribed for any compressed gas except acetylene and having a minimum design pressure of 175 pounds per square inch. Cylinders must be equipped with steel valve protection caps or collars, or must be packed in strong wooden boxes and secured therein to protect valves. Safety relief devices, if used, must be in the vapor space of loaded cylinders. (See also §§ 174.532(b)(3) and 177.837(d) of this subchapter.)

(2) Spec. 15A, 15B, or 15C (§ 178.168 178.169, or 178.170 of this subchapter) wooden boxes or spec. 12B (§ 178.205 of this subchapter) fiberboard boxes enclosing not more than four spec. 2A (§ 178.20 of this subchapter) metal cans with inside containers of glass or metal, not over one quart capacity each, having positive screw-cap closures adequately gasketed ahead of the threads. Inside containers must be cushioned on all sides with dry, absorbent, incombustible material in a quantity sufficient to absorb entire contents. Spec. 2A cans must be closed by positive means, not friction.

(3) Spec. 17C or 37A (§ 178.115 or 178.131 of this subchapter). Metal drums (single-trip) with inside metal cans not over 1 gallon capacity each, constructed of not less than 28 gauge electro-coated tin plate closed by positive means, not friction. Inside containers shall have no opening exceeding 1 inch diameter and must be surrounded on all sides with incombustible cushioning material. Spec. 17C, 30-gallon capacity drums, shall contain not more than 20 gallons of pyroforic liquids, n.o.s. per drum and 55-gallon capacity drums shall contain not more than 35 gallons of pyroforic liquids, n.o.s. per drum; each layer of inside containers must be separated by a tin plate separator in addition to cushioning material. Spec. 37A drums shall not exceed 5 gallons capacity each.

(4) Spec. 105A300-W (§§ 179.100 and 179.101 of this subchapter) tank cars.

(5) Spec. 51 (§ 178.245 of this subchapter). Portable tanks having a minimum design pressure of 175 pounds per square inch. Safety relief devices must communicate with the vapor space when tanks are fully loaded.

(6) Specification MC 330 or MC 331 (§ 178.337). Tank motor vehicles having a minimum design pressure of 175 p.s.i. Safety relief devices must communicate with the vapor space when tanks are fully loaded. Tank bottom outlets must be equipped with valves conforming with § 178.337-11(c).

(b) Pyroforic liquids, n.o.s., when offered for transportation by rail express must be packed in containers as prescribed by paragraph (a) (1), (2) or (3) of this section.

[Order 66, 30 FR 5744, Apr. 23, 1965. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-26, 35 FR 7700, May 19, 1970; Amdt. 173-94, 41 FR 16068, Apr. 15, 1976]

§ 173.135 Diethyl dichlorosilane, dimethyl dichlorosilane, ethyl dichlorosilane, ethyl trichlorosilane, methyl trichlorosilane, trimethyl chlorosilane, and vinyl trichlorosilane.

(a) Diethyl dichlorosilane, dimethyl dichlorosilane, ethyl dichlorosilane, ethyl trichlorosilane, methyl trichlorosilane, trimethyl chlorosilane, and vinyl trichlorosilane must be packaged as follows:

(1) Spec. 15A or 16B (§§ 178.168 or 178.186 of this subchapter). Wooden boxes with glass inside containers not over 1 gallon capacity each securely closed and cushioned with incombustible absorbent material.

(2) Spec. 17H or 37A (§ 178.118 or § 178.131 of this subchapter). Metal drums (single-trip) with glass inside containers not over 1 gallon capacity each securely closed and cushioned with incombustible absorbent material.

(3) Spec. 5A (§ 178.81 of this subchapter). Metal drums not over 55 gallons capacity.

(4) Spec. 5F (§ 178.85 of this subchapter). Metal drums not over 11 gallons capacity.

(5) Specifications 5, 5B, 5C, and 17E (single-trip) (§§ 178.80, 178.82, 178.83, 178.116 of this subchapter). Metal drums. Not authorized for shipment by air.

(6) Specification cylinders as prescribed for any compressed gas, except acetylene.

(7) Spec. 103,[1] 103-W, 111A60-F-1, or 111A60-W-1 (§§ 179.200, 179.201 of this subchapter). Tank cars, without bottom discharge outlet.

(8) Spec. 105A100,[1] 105A100-W, or 111A100-W-4 (§§ 179.100, 179.101, 179.200, 179.201 of this subchapter. Tank cars.

(9) Specification MC 300, MC 303, MC 304, MC 306, or MC 307 (§§ 178.340, 178.341, 178.342). Tank motor vehicles having cargo tanks of steel or stainless steel construction. Tank bottom outlets must be equipped with valves conforming with § 178.342-5(a).

[29 FR 18700, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173-26, 35 FR 7700, May 19, 1970; Amdt. 173-94, 41 FR 16069, Apr. 15, 1976]

§ 173.136 Methyl dichlorosilane and trichlorosilane.

(a) Methyl dichlorosilane and trichlorosilane must be packed in specification containers as follows:

(1) Spec. 15A or 16B (§§ 178.168 or 178.186 of this subchapter). Wooden boxes with glass inside containers not over 1 quart capacity each securely closed and cushioned with incombustible absorbent material.

(2) Spec. 17H or 37A (§ 178.118 or § 178.131 of this subchapter). Metal drums (single-trip) with glass inside containers not over 1 quart capacity each securely closed and cushioned with incombustible absorbent material.

(3) Specification 5A, 5B, or 5C (§§ 178.81, 178.82, 178.83 of this subchapter). Metal drums not over 55 gallons capacity each. Specification 5B drums must have no opening exceeding 2.3 inches in diameter. Not authorized for shipment by air.

(4) Specification 5F (§ 178.85 of this subchapter). Metal drums not over 11 gallons capacity. Not authorized for shipment by air.

(5) Specification cylinders as prescribed for any compressed gas, except acetylene.

(6) Spec. 103,[1] 103-W, 111A60-F-1, or 111A60-W-1 (§§ 179.200, 179.201 of this subchapter. Tank cars, without bottom discharge outlet.

(7) Spec. 105A100,[1] 105A100-W, or 111A100-W-4 (§§ 179.100, 179.101, 179.200, 179.201 of this subchapter). Tank cars.

(8) Specification MC 330 or MC 331 (§ 178.337). Tank motor vehicles. Tank bottom outlets must be equipped with valves conforming with § 178.337-11(c).

(9) Spec. 51 (§ 178.245 of this subchapter). Portable tanks.

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[1] Use of existing tanks authorized. Construction not authorized after May 31, 1972.

[29 FR 18700, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-26, 35 FR 7700, May 19, 1970; Amdt. 173-94, 41 FR 16069, Apr. 15, 1976]

§ 173.137 Lithium aluminum hydride, ethereal.

(a) Lithium aluminum hydride, ethereal, must be packed in specification containers as follows:

(1) Spec. 15A (§ 178.168 of this subchapter). Wooden boxes with inside glass or earthenware containers not over 1 quart each enclosed in air-tight metal cans and cushioned with sufficient incombustible cushioning material to completely absorb contents in event of breakage.

(2) Spec. 6A, 6B, 6C, or 17H (single-trip) (§§ 178.97, 178.98, 178.99, or 178.118 of this subchapter). Metal barrels or drums with not more than one inside glass container not exceeding 2 gallons capacity. The inside container must be completely cushioned in sufficient incombustible cushioning material to completely absorb the contents in event of breakage.

(3) Specification cylinders as prescribed for any compressed gas, except acetylene. Valves or fittings must be protected from injury by a cap or equally efficient device.

[29 FR 18700, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16069, Apr. 15, 1976]

§ 173.138 Pentaborane.

(a) Pentaborane must be packed in specification cylinders as prescribed for any compressed gas, except acetylene. Cylinders must be protected with valve protection cap or must be packed in strong wooden boxes and blocked therein so as to protect the valves from injury under conditions normally incident to transportation. Cylinders not exceeding 2 inches in diameter nor 6 inches in length, excluding the length of the valve, may also be packed in strong solid fiberboard boxes, having no outside dimension less than 4 inches, completely filled with layers of strong corrugated fiberboard, the center of which shall be cut out to fit the cylinder valve, and otherwise so designed that neither the cylinder nor the valve will be in contact with any wall of the box under conditions normally incident to transportation.

§ 173.139 Ethylene imine, inhibited, and propylene imine, inhibited.

(a) Ethylene imine and propylene imine must be inhibited and must be packed in specification containers as follows:

(1) Spec. 15A or 15B (§ 178.168 or § 178.169 of this subchapter). Wooden boxes, with inside containers which must be securely sealed glass ampules or glass bottles, contents not over 16 fluid ounces or 1 pound each, in tightly closed metal cans. If more than one ampule or bottle is packed in a metal can, ampules or bottles must be separated by fiberboard partitions. Ampules or bottles must be cushioned in vermiculite or equally efficient incombustible cushioning material in quantity sufficient to completely absorb contents in event of breakage. Not more than 5 pints of liquid may be packed in any outside wooden box.

(2) Spec. 15A, 15B, or 15C (§§ 178.168, 178.169, or 178.170 of this subchapter). Wooden boxes with not more than four inside metal drums, spec. 37B (§ 178.132 of this subchapter), not over 1-gallon capacity each, or not more than one spec. 37B metal drum of 5-gallons capacity, in one outside box. Inside drums must be surrounded on all sides with incombustible absorbent cushioning material.

(3) Spec. 6A, 6B, 6C, or 6J (§§ 178.97, 178.98, 178.99, or 178.100 of this subchapter). Metal barrels or drums, with one inside spec. 17E (§ 178.116 of this subchapter) metal drum not over 30-gallons capacity. Inside drum must be completely surrounded with incombustible cushioning material.

(4) Spec. 104W or 111A60W1 (§§ 179.200 and 179.201). Tank cars, for ethylene imine, inhibited only. Spec. 111A60W1 tank cars must be insulated in accordance with § 179.200-4 of this subchapter.

(i) Each tank car must be marked "ETHYLENE IMINE" in accordance with the requirements of § 172.330 of this subchapter.

(5) Spec. 5A (§ 178.81 of this subchapter). Metal barrels or drums not over 55-gallon capacity. Authorized for propylene imine, inhibited only.

(6) Specification 4BA240 or 4BW240 (§§ 178.51, 178.61 of this subchapter). Cylinders of all welded construction. Authorized only for propylene imine, inhibited.

[29 FR 18700, Dec. 29, 1964, as amended by Order 66, 30 FR 5744, Apr. 23, 1965; Order 71, 31 FR 9070, July 1, 1966. Redesignated at 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173-11, 34 FR 12590, Aug. 1, 1969; Amdt. 173-30, 35 FR 12208, July 30, 1970; Amdt. 173-94, 41 FR 16069, Apr. 15, 1976]

§ 173.140 Zirconium, metallic, solutions, or mixtures thereof, liquid.

(a) Zirconium, metallic, solutions, or mixtures thereof, liquid, must be packed in specification containers as follows:

(1) Spec. 15A, 15B, or 15C (§§ 178.168, 178.169, or 178.170 of this subchapter). Wooden boxes with inside metal containers. Each inside container shall not contain more than 20 individual glass or porcelain jars, not exceeding 2-ounce capacity each, securely closed and completely cushioned in incombustible cushioning material in sufficient quantity to completely absorb the contents.

[29 FR 18700, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16069, Apr. 15, 1976]

§ 173.141 Amyl mercaptan, butyl mercaptan, ethyl mercaptan, isopropyl mercaptan, propyl mercaptan, and aliphatic mercaptan mixtures.

(a) Amyl mercaptan, butyl mercaptan, ethyl mercaptan, isopropyl mercaptan, propyl mercaptan, and aliphatic mercaptan mixtures must be packed in specification containers as follows:

(1) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with securely closed inside metal containers not over 5 gallons capacity each, or in tightly closed glass bottles not exceeding 1 quart capacity each, securely cushioned in sufficient quantity of absorbent material to completely absorb the contents in event of leakage.

(2) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with securely closed inside metal containers not over 1 gallon capacity each; or in tightly closed glass bottles not exceeding 1 quart capacity each, securely cushioned in sufficient quantity of absorbent material to completely absorb the contents in event of leakage.

(3) Spec. 5, 5A, 5B, or 5C (§§ 178.80, 178.81, 178.82 or 178.83 of this subchapter). Metal barrels or drums, with not more than one opening not exceeding 2.3 inches in diameter and not more than one vent opening not exceeding 1 inch in diameter. Gaskets are required and must be not less than $\frac{3}{32}$-inch thick and of resilient material such as polyethylene, neoprene, or equally efficient material.

(4) Spec. 17C (§ 178.115 of this subchapter). Metal drums (single-trip), with not more than one opening not exceeding 2.3 inches in diameter and not more than one vent opening not exceeding 1 inch in diameter. Gaskets are required and must be not less than $\frac{3}{32}$-inch thick and of resilient material such as polyethylene, neoprene, or equally efficient material.

(5) Spec. 17E (§ 178.116 of this subchapter). Metal drums (single-trip), not over 5 gallons capacity, without opening except bung hole not exceeding 2.3 inches in diameter. Gaskets are required and must be not less than $\frac{3}{32}$-inch thick and of resilient material such as polyethylene, neoprene, or equally efficient material. (See also paragraph (a) (6) of this section.)

(6) Spec. 17E (§ 178.116 of this subchapter). Metal drums (single-trip), not over 55 gallons capacity, with not more than one opening not exceeding 2.3 inches in diameter and not more than one vent opening not exceeding 1 inch in diameter. Gaskets are required and must be not less than $\frac{3}{32}$-inch thick and of resilient material such as polyethylene, neoprene, or equally efficient material. Authorized only for mercaptans having flash point above 20° F.

(7) Specification 103W, 105A100,[1] 105A100W, 106A500X, 110A500W, 111A60F1, 111A60W1, 112A200W, 112A400F, or 114A340W (§§ 179.100, 179.101, 179.200, 179.201 of this subchapter). Tank cars. Specifications 103W, 111A60F1, 111A60W1, and 114A340W tank cars must not be equipped with any bottom outlet. Bottom washout permitted.

(8) Specification MC 330 or MC 331 (§ 178.337). Tank motor vehicles. Tank bottom outlets must be equipped with valves conforming with § 178.337-11(c).

(9) Specification cylinders as prescribed for any compressed gas, except acetylene.

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[1] Use of existing tank cars authorized, but new construction not authorized.

(10) Specification 51 (§ 178.245 of this subchapter). Portable tank. Each tank must be equipped with safety relief valves which must be in compliance with all requirements of § 173.315(i). A tank must not be liquid full at 130°F.

(b) Warning or odorizing devices containing not more than one ounce of a mercaptan or an aliphatic mercaptan mixture in a hermetically sealed container or in a hermetically sealed portion of the device are not subject to the regulations in Parts 170–189 and 397 of this title.

[29 FR 18700, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173–26, 35 FR 7701, May 19, 1970; Amdt. 173–80, 39 FR 15035, Apr. 30, 1974; Amdt. 173–84, 39 FR 33532, Sept. 18, 1974; Amdt. 173–94, 41 FR 16069, Apr. 15, 1976]

§ 173.143 Methylchloromethyl ether, anhydrous.

(a) Methylchloromethyl ether, anhydrous, must be packed in specification containers as follows:

(1) Spec. 5K (§ 178.88 of this subchapter). Nickel barrels or drums.

(2) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185 or 178.190 of this subchapter). Wooden boxes with inside containers which must be glass or earthenware, not over 1 gallon capacity each, except that inside containers up to 3 gallons each are authorized when only one inside container is packed in each outside container.

[29 FR 18700, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–94, 41 FR 16069, Apr. 15, 1976]

§ 173.144 Ink (flammable liquid).

(a) Except as otherwise provided in this part, ink which is classed as a flammable liquid in this subchapter must be packaged as follows:

(1) In containers as prescribed in § 173.119, according to flash point, pressure, or viscosity.

(2) Spec. 17C (§§ 178.115 of this subchapter). Full removable head metal drums (single-trip).

(3) Specification 37C (§ 178.135 of this subchapter). Metal drums (non-reusable container) not over 5 gallons capacity each. Authorized only for material having flash point over 20° F. Not authorized for transportation by air.

(b) Ink in glass packagings not over 1 quart capacity each, or in metal packagings not over 5 gallons capacity each, further overpacked in a strong outside packaging is excepted from the specification packaging requirements of this part.

[29 FR 18700, Dec. 29, 1964, Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–94, 41 FR 16069, Apr. 15, 1976]

§ 173.145 Dimethylhydrazine, unsymmetrical, and methylhydrazine.

(a) Dimethylhydrazine, unsymmetrical, and methylhydrazine must be packed in specification containers as follows:

(1) Specification 1D (§ 178.4 of this subchapter). Boxed glass carboys. Not authorized for transportation by air.

(2) Spec. 15A, 15B, or 15C (§ 178.168, § 178.169, or § 178.170 of this subchapter). Wooden boxes with inside containers which must consist of glass bottles not exceeding 1-gallon capacity each. cushioned by means of vermiculite within tin cans which shall be tightly closed, or containers not over 2 quarts capacity each made of aluminum not less than 0.04 inch thick. Closures and gaskets must be of material which will not react dangerously with or be decomposed by contact with the contents.

(3) Spec. 5, 5A, or 5C (§ 178.80, § 178.81, or § 178.83 of this subchapter); or 17E (§ 178.116 of this subchapter) (single-trip). Metal barrels or drums which shall be of type 304 or 347 stainless steel, with openings not exceeding 2.3 inches in diameter.

(4) Spec. 17C (§ 178.115 of this subchapter). Metal barrels or drums (single-trip) with openings not exceeding 2.3 inches in diameter. Authorized only for dimethylhydrazine, unsymmetrical.

(5) Spec. 42B (§ 178.107 of this subchapter). Aluminum drums. Authorized only for dimethylhydrazine, unsymmetrical.

(6) Specification 103W, 103CW, 105A100W, 111A60W1, 111A60W7, or 111A100W4 (§§ 179.100, 179.101, 179.200, 179.201 of this subchapter). Tank cars.[1] Authorized for dimethylhydrazine, unsymmetrical only. Each tank car must be equipped with steel safety valves of approved design and any 103W or 111A*** tank car must not be equipped with any bottom outlet. Bottom washout permitted. Specification 105A200W, 105A300W, 105A400W, 105A500W, and 105A600W (§§ 179.100, 179.101 of this subchapter) tanks must be restenciled 105A100W and be equipped with safety valves of the type and size used on specification 105A100W tank cars.

(7) Specification MC 300, MC 301, MC 302, MC 303, MC 304, MC 305, MC 306, MC 307, MC 310, MC 311, or MC 312 (§ 178.341, § 178.342, § 178.343 of this subchapter). Tank motor vehicles without bottom discharge outlets and equipped with steel safety valves of approved design. Authorized only for dimethylhydrazine, unsymmetrical.

[29 F.R. 18700, Dec. 29, 1964, as amended by Order 73, 32 FR 3455, March 2, 1967. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–80, 39 FR 15035, Apr. 30, 1974; Amdt. 173–94, 41 FR 16069, Apr. 15, 1976; Amdt. 173–94A, 41 FR 46081, Sept. 20, 1976]

§ 173.146 Heaters for refrigerator cars, flammable liquid fuel type.

(a) Heaters of the liquid fuel type for refrigerator cars, containing flammable liquid fuel, may be shipped in carload or truckload lots provided each heater shall have been inspected to see that flame has been extinguished, that there is no leakage of fuel, and that controls are in the "off" position. Heaters shall be loaded and braced so as to prevent falling, tipping, or mechanical damage under normal conditions incident to transportation.

(b) Heaters of the liquid fuel type for refrigerator cars must have their flammable liquid fuel tanks completely drained if offered for transportation or transported in less-than-carload or less-than-truckload lots.

[29 FR 18700, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–94, 41 FR 16069, Apr. 15, 1976]

§ 173.147 Methyl vinyl ketone, inhibited.

(a) Methyl vinyl ketone must be inhibited and must be packed in specification containers as follows:

(1) As prescribed in § 173.119(a) or (b).

(b) Limited quantities of inhibited methyl vinyl ketone, in a glass or metal inside container having a capacity of no more than 4 fluid ounces with no more than one such container securely closed and efficiently cushioned in a strong outside packaging, is excepted from labeling and the specification packaging requirements of this subpart (except that labeling is required for transportation by air). In addition, shipments are not subject to Subpart F of Part 172 of this subchapter, to Part 174 of this subchapter except § 174.24 and to Part 177 of this subchapter except § 177.817.

[29 FR 18700, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–94, 41 FR 16069, Apr. 15, 1976; Amdt. 173–94A, 41 FR 40681, Sept. 20, 1976]

§ 173.148 Monoethylamine.

(a) Monoethylamine must be packed in specification containers as follows:

(1) Specification 5, 5A, or 5P (§§ 178.80, 178.81, 178.92 of this subchapter). Metal barrel or drum equipped with openings not exceeding 2.3 inches in diameter. Bung labels must be applied and must meet the requirements prescribed in § 173.119(i).

(2) Cylinders as prescribed for any compressed gas except acetylene.

(3) Tank cars prescribed in § 173.119(f)(3).

(4) Specification 106A500X or 110A500W (§§ 179.300, 179.301) tanks. Authorized only for transportation by rail freight and by highway. (See §§ 174.560 and 177.834(m) of this subchapter for special requirements.)

(5) Specification MC 304 or MC 307 (§§ 178.340, 178.342). Tank motor vehicles. Tank bottom outlets must be equipped with valves conforming with § 178.342–5(a).

[29 FR 18700, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–18, 35 FR 1109, Jan. 28, 1970; Amdt. 173–26, 35 FR 7701, May 19, 1970; Amdt. 173–73, 38 FR 20084, July 27, 1973; Amdt. 173–94, 41 FR 16069, Apr. 15, 1976]

§ 173.149 Methyl magnesium bromide in ethyl ether in concentrations not over 40 percent.

(a) Methyl magnesium bromide in ethyl ether in concentrations not over 40 percent must be packed in specification containers as follows:

(1) As prescribed in § 173.134 paragraphs (a) and (b).

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[1] The use of existing tank cars authorized but new construction not authorized.

(2) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with inside glass bottles not over 1 quart capacity each. Inside containers must be surrounded on all sides with dry absorbent noncombustible material in quantity sufficient to absorb entire contents. Authorized gross weight not over 65 pounds.

(3) Spec. 17C (§ 178.115 of this subchapter). Metal drums (single-trip) with openings not exceeding 2.3 inches in diameter.

[Order 66, 30 FR 5744, Apr. 23, 1965. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16069, Apr. 15, 1976]

§ 173.149a Nitromethane.

Nitromethane must be packaged as specified in § 173.119(b) except that shipment in cargo tanks, tank cars portable tanks, and any container having a capacity greater than 110 gallons is forbidden.

[Amdt. 173-94, 41 FR 16069, Apr. 15, 1976]

Subpart E—Flammable Solids, Oxidizers, and Organic Peroxides; Definitions and Preparation

SOURCE: 29 FR 18709, Dec. 29, 1964, unless otherwise noted. Redesignated at 32 FR 5606, Apr. 5, 1967.

§ 173.150 Flammable solid; definition.

For the purpose of this subchapter, "Flammable solid" is any solid material, other than one classed as an explosive, which, under conditions normally incident to transportation is liable to cause fires through friction, retained heat from manufacturing or processing, or which can be ignited readily and when ignited burns so vigorously and persistently as to create a serious transportation hazard. Included in this class are spontaneously combustible and water-reactive materials.

[Amdt. 173-94, 41 FR 16069, Apr. 15, 1976, as amended by Amdt. 173-94A, 41 FR 40681, Sept. 20, 1976]

§ 173.151 Oxidizer; definition.

An oxidizer for the purpose of this subchapter is a substance such as a chlorate, permanganate, inorganic peroxide, nitro carbo nitrate, or a nitrate, that yields oxygen readily to stimulate the combustion of organic matter.

[Amdt. 173-94, 41 FR 16069, Apr. 15, 1976]

§ 173.151a Organic peroxide; definition.

(a) An organic compound containing the bivalent —0—0— structure and which may be considered a derivative of hydrogen peroxide where one or more of the hydrogen atoms have been replaced by organic radicals must be classed as an organic peroxide unless:

(1) The material meets the definition of an explosive A or explosive B, as prescribed in Subpart C of this part, in which case it must be classed as an explosive,

(2) The material is forbidden to be offered for transportation according to § 172.101 or § 173.21 of this subchapter,

(3) The material is not specifically identified as an organic peroxide in § 172.101 and meets the definition of a flammable liquid, or

(4) According to data on file with the Materials Transportation Bureau, it has been determined that the material does not present a hazard in transportation.

[Amdt. 173-94, 41 FR 16069, Apr. 15, 1976, as amended by Amdt. 173-94A, 41 FR 40681, Sept. 20, 1976]

§ 173.152 Packing.

(a) Flammable solids or oxidizing materials must not be packed in the same outside container with corrosive liquids unless the corrosive liquids are in bottles, cushioned by incombustible absorbent material, in tightly closed metal containers.

NOTE 1: Oxidizing or other materials in quantity not exceeding 4 ounces, in securely closed metal cans, packed in the same compartment with other securely packed materials necessary for a complete fumigant, are acceptable for transportation.

(b) Closing and cushioning. All containers must be tightly and securely closed. Inside containers must be cushioned as prescribed or in any case when necessary to prevent breakage or leakage.

§ 173.153 Limited quantities of flammable solids, oxidizers and organic peroxides.

(a) Limited quantities of flammable solids for which exceptions are permitted as noted by reference to this section in § 172.101 of this subchapter, are excepted from labeling (except when offered for transportation by air) and specification packaging requirements when packed according to the following paragraph. In addition, shipments are not subject to Subpart F of Part 172 of this subchapter, to Part 174 of this subchapter except § 174.24 and to Part 177 of this subchapter except § 177.817.

(1) In inside containers not over 1 pound net weight each, in outside containers not exceeding 25 pounds net weight each.

(b) Limited quantities of oxidizers and organic peroxides for which exceptions are permitted as noted by reference to this section in § 172.101 of this subchapter are excepted from labeling (except when offered for transportation by air) and specification packaging requirements when packed according to the following paragraphs. In addition, shipments are not subject to Subpart F of Part 172 of this subchapter, to Part 174 of this subchapter except § 174.24 and to Part 177 of this subchapter except § 177.817.

(1) Oxidizers in inside containers not over 1 pound net weight each, in outside containers not exceeding 25 pounds net weight each.

(2) Organic peroxides, except acetyl benzoyl peroxide and benzoyl peroxide, as follows:

(i) In inside containers which must be securely packed and cushioned with noncombustible cushioning material (except that cushioning material is not required when the liquid is contained in strong, securely closed plastic packagings of not over 1 ounce by volume capacity each), further overpacked in strong outside packagings containing not over 1 pint or 1 pound net weight of the material.

(ii) In not more than 24 inside fiberboard containers each having not more than 70 securely closed tubes having a maximum fluid capacity each of ⅙-ounce and securely packed in non-combustible cushioning material.

(c) Special exceptions for shipment of certain flammable solids, oxidizers and organic peroxides in the ORM-D Class are provided in Subpart N of this part.

[Amdt. 173-94, 41 FR 16069, Apr. 15, 1976, as amended by Amdt. 173-94A, 41 FR 40681, Sept. 20, 1976]

§ 173.154 Flammable solids, organic peroxide solids and oxidizers not specifically provided for.

(a) Flammable solids, organic peroxide solids and oxidizers as defined in §§ 173.150 and 173.151, other than those for which special packing requirements are prescribed, must be packed in specification containers of a design and constructed of materials that will not react dangerously with or be decomposed by the chemical packed therein. Specific packaging requirements are as follows:

(1) Spec. 6A, 6B, or 6C (§§ 178.97, 178.98, or 178.99 of this chapter). Metal barrels or drums.

(2) Spec. 17C, 17E, 17H, 37A or 37B (§§ 178.115, 178.116, 178.118, 178.131, or 178.132 of this chapter), metal drums (single-trip).

(3)-(5) [Reserved]

(6) Spec. 12B (§ 178.205 of this chapter). Fiberboard boxes with inside containers which must be metal cans; sliding-lid wooden boxes; fiber cans or boxes, spec. 2G (§ 178.26 of this chapter), not over 5 pounds capacity each; or glass bottles not over 1 pound capacity each. Packages containing glass containers must not weigh over 65 pounds gross.

(7) Spec. 15A or 15B (§§ 178.168 or 178.169 of this subchapter). Wooden boxes lined, spec. 2F or 2M (§§ 178.25 or 178.31 of this subchapter).

(8) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with inside containers.

(9) Spec. 21C (§ 178.224 of this subchapter). Fiber drums. Authorized net weight not over 225 pounds.

(10) Spec. 22A (§ 178.196 of this subchapter). Plywood drums.

(11) Spec. 22B (§ 178.197 of this subchapter). Plywood drums with inside metal drums, spec. 2F (§ 178.25 of this subchapter).

(12) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes constructed of at least 275-pound test double-faced fiberboard and provided with a perimeter liner and bottom pad of at least 200-pound test fiberboard. Boxes constructed of at least 350-pound fiberboard having top and bottom pads shall not require perimeter liner. Product must be contained within a tightly closed polyethylene or other equally efficient plastic bag constructed of material having minimum thickness of 0.004 inch. Not more than 25 pounds net weight of

product may be packed in one outside box.

(13) Spec. 12A (§ 178.210 of this subchapter). Fiberboard boxes with inside glass bottles not over 5 pounds capacity each. Not more than four bottles having capacity of 5 pounds each, shall be packed in one outside container. Shipper must have established that completed package meets test requirements prescribed by § 178.210-10 of this subchapter.

(14) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with inside polyethylene bottles not over 1-gallon capacity each. Not more than four 1-gallon polyethylene bottles shall be packed in one outside fiberboard box. Authorized only for materials which will not cause decomposition of polyethylene or container failure.

(15) Specification 103,[1] 103W, 111A60W1, or 111A60F1 (§§ 179.200, 179.201 of this subchapter). Tank cars. Authorized only for sodium perchlorate or magnesium perchlorate wet with 10 percent or more water equally distributed.

[29 FR 18709, Dec. 29, 1964, as amended by Order 71, 31 FR 9070, July 1, 1966. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-80, 39 FR 15035, Apr. 30, 1974; Amdt. 173-81, 39 FR 17317, May 15, 1974; Amdt. 173-94, 41 FR 16070, Apr. 15, 1976; Amdt. 173-94A, 41 FR 40681, Sept. 20, 1976]

§ 173.154a Fusees.

(a) A fusee is a device designed to burn at a controlled rate and to produce visible effects for signaling purposes. It consists of a pasteboard or fiber tube containing a colored flare mixture and with or without a means of support. The composition of the fusee must be such that spontaneous ignition does not occur when the moistened composition is exposed to a temperature of 212° F. for 72 consecutive hours. Fusees must have individual tip, head, or similar ignition point or surface entirely covered and securely protected against accidental contact or friction. Fusees must be securely packed in packages complying with the following specifications:

(1) Specifications 15A, 15B, 15C, 16A, 19A, or 19B (§§ 178.168, 178.169, 178.170, 178.185, 178.190, 178.191 of this subchapter). Wooden boxes having a gross weight not to exceed 150 pounds for specification 19B boxes; 200 pounds for the other boxes. When specification 15C boxes are used, devices must be packed in airtight inside metal receptacles.

(2) Specification 12B (§ 178.205 of this subchapter) fiberboard boxes. Boxes must have reinforced ends proven to be capable of preventing penetration of spikes through the outside box when a sample package, prepared as for shipment, is subjected to two drops from a height of 4 feet onto a solid surface. The package must be dropped so as to strike diagonally with the spikes in a downward position. Gross weight not to exceed 65 pounds except that gross weight not to exceed 75 pounds is authorized in boxes made in accordance with § 178.205-24 of this subchapter.

(3) Specification 29 (§ 178.226 of this subchapter). Mailing tubes, provided the penetration of the spikes of the fusees through the outside container is prevented by the method specified for fiberboard boxes, specification 12B, in subparagraph (2) of this paragraph. Gross weight not to exceed 5 pounds.

(4) Fusees without spikes when offered for shipment may be packed in packages prescribed in this paragraph, omitting the protection required for these devices when equipped with spikes.

(5) Fusees may be packed with nonexplosive or nonflammable articles provided the outside packages are marked as prescribed in this section.

(b) Each outside package must be plainly marked in letters not less than seven-sixteenths inch in height "Fusees" and with the additional words "Handle Carefully—Keep Fire Away."

[Amdt. 173-56, 36 FR 21201, Nov. 4, 1971 as amended by Amdt. 173-94, 41 FR 16070, Apr. 15, 1976]

§ 173.155 Bags, nitrate of soda, empty and unwashed.

(a) Bags, nitrate of soda, empty and unwashed, must be packed in specification containers as follows:

(1) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes.

(2) [Reserved]

(b) Bags in carload and truckload lots loaded by consignor and to be unloaded by consignee may also be shipped loose or baled, provided the car or highway vehicle is lined with paper and doors of cars are properly stripped after sealing and provision is made on highway vehicle to prevent entrance of sparks.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173-81, 39 FR 17317, May 15, 1974; Amdt. 173-94, 41 FR 16070, Apr. 15, 1976]

§ 173.156 Barium peroxide and calcium peroxide.

(a) Barium peroxide and calcium peroxide must be packed in specification containers as follows:

(1) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter) Wooden boxes with inside glass containers not over 1 pound capacity each; or with inside glass containers not over 5 pounds capacity each cushioned with incombustible cushioning material; or with inside metal containers or lining, spec. 2F (§ 178.25 of this subchapter).

(2) Spec. 6A (§ 178.97 of this subchapter). Metal barrels or drums. Gross weight not to exceed 880 pounds.

(3) Spec. 6B or 6C (§§ 178.98 or 178.99 of this subchapter). Metal barrels or drums with not more than 1400 pounds net weight in each container.

(4) Spec. 17E, 17H, 37A, or 37B (§§ 178.116, 178.118, 178.131, or § 178.132 of this subchapter). Metal drums (single-trip).

(5) Spec. 21C (§ 178.224 of this subchapter). Fiber drums. Authorized net weight not over 225 pounds.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16070, Apr. 15, 1976]

§ 173.157 Benzoyl peroxide, chlorobenzoyl peroxide (para), cyclohexanone peroxide, dimethylhexane dihydroperoxide, lauroyl peroxide, or succinic acid peroxide, wet.

(a) Benzoyl peroxide, chlorobenzoyl peroxide (para), dimethylhexane dihydroperoxide, lauroyl peroxide, and succinic acid peroxide, each wet with at least 30 percent of water by weight, and cyclohexanone peroxide over 50 percent concentration but not exceeding 85 percent concentration, wet, must be packed in specification packagings as follows:

(1) Specification 15A, 15B, or 15C (§§ 178.168, 178.169, 178.170 of this subchapter). Wooden box with inside metal containers or lining, specification 2F (§ 178.25 of this subchapter), or with securely closed inside paper bags lined with polyethylene at least 0.002 inch thick, or with inside aluminum drums of at least 16 gage metal throughout. Net weight (dry weight) in each inside DOT-2F metal container or in each paper bag may not exceed 1 pound. Gross weight may not exceed 200 pounds.

(2) [Reserved]

(3) Specification 12B (§ 178.205 of this subchapter). Fiberboard box with inside fiber containers securely closed by taping or gluing, or with securely closed inside paper bags lined with polyethylene at least 0.002 inch thick. Net weight (dry weight) in each inside container may not exceed 1 pound. Except for lauroyl peroxide, wet, each inside container must be surrounded by asbestos or an equivalent fire-resistant cushioning material. Gross weight in specification 12B65 fiberboard box may exceed 65 pounds, but may not exceed 80 pounds, provided the net weight (dry weight) of the contents does not exceed 50 pounds.

(4) Specification 21C (§ 178.224 of this subchapter). Fiber drum with securely closed inside plastic containers made of polyethylene film at least 0.002 inch thick for cyclohexanone peroxide over 50 percent concentration but not exceeding 85 percent concentration and for dimethylhexane dihydroperoxide; with securely closed inside plastic containers made of polyethylene film at least 0.004 inch thick for benzoyl peroxide wet with at least 30 percent of water by weight. Authorized net weight (wet weight) in one outside drum may not exceed 50 pounds for cyclohexanone peroxide, 100 pounds for dimethylhexane dihydroperoxide, or 225 pounds for benzoyl peroxide.

(5) Specification 12B (§ 178.205 of this subchapter). Fiberboard box with securely closed inside plastic containers made of polyethylene film at least 0.004 inch thick. Net weight (dry weight) in each inside container may not exceed 10 pounds. Each inside container must be surrounded by asbestos or an equivalent fire-resistant cushioning material. Authorized only for benzoyl peroxide.

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[1] The use of existing tanks authorized but new construction not authorized.

(b) Benzoyl peroxide, wet with at least 20 percent of water by weight, must be packed in specification packagings as follows:

(1) Specification 12B (§ 178.205 of this subchapter). Fiberboard box with securely closed inside paper bags lined with polyethylene at least 0.002 inch thick. Net weight (dry weight) in each bag may not exceed 1 pound. Each bag must be surrounded by asbestos or an equivalent fire-resistant cushioning material.

(2) Specification 21C (§ 178.224 of this subchapter). Fiber drum with securely closed inside plastic containers made of polyethylene film at least 0.004 inch thick. Net weight (dry weight) in each outside drum may not exceed 25 pounds.

(3) Specification 12B (§ 178.205 of this subchapter). Fiberboard box with securely closed inside plastic containers made of polyethylene film at least 0.004 inch thick. Net weight (dry weight) in each inside container may not exceed 10 pounds. Each inside container must be surrounded by asbestos or an equivalent fire-resistant cushioning material. Net weight (dry weight) in each outside box may not exceed 25 pounds.

[29 FR 18709, Dec. 29, 1964, as amended by Order 67, 30 FR 7421, June 5, 1965; Order 71, 31 FR 9070, July 1, 1966. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-17, 34 FR 18553, Nov. 21, 1969; Amdt. 173-73, 38 FR 20084, July 27, 1973]

§ 173.158 Benzoyl peroxide, dry; chlorobenzoyl peroxide (para) dry; cyclohexanone peroxide, dry; lauroyl peroxide, dry; or succinic acid peroxide, dry.

(a) Benzoyl peroxide, dry; chlorobenzoyl peroxide (para), dry; cyclohexanone peroxide over 50 percent concentration but not exceeding 85 percent concentration, dry; lauroyl peroxide, dry; or succinic acid peroxide, dry; must be packed in specification packagings as follows:

(1) Spec. 15A or 15B (§ 178.168 or § 178.169 of this subchapter). Wooden boxes, with inside fiber containers securely closed by taping or gluing, or inside securely closed paper bags lined with 0.002 inch thick polyethylene, not over 1 pound capacity each. Except for lauroyl peroxide, dry, each inside container must be surrounded by asbestos or fire-resistant cushioning material which will protect contents with equal efficiency. Net weight in outside container must not exceed 50 pounds, except that for lauroyl peroxide, dry, net weight not over 100 pounds is authorized.

(2) Spec. 21C (§ 178.224 of this subchapter) fiber drums. Authorized only for lauroyl peroxide, dry. Authorized net weight not over 100 pounds in one drum.

(3) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes, with inside fiber containers securely closed by taping or gluing, or inside securely closed paper bags lined with polyethylene not less than 0.002 inch thick, not over 1 pound capacity each. Except for lauroyl peroxide, dry, each inside container must be surrounded by asbestos or fire-resistant cushioning material which will protect the contents with equal efficiency. Gross weight in Spec. 12B65 boxes may be more than 65 but not more than 80 pounds provided net weight of content does not exceed 50 pounds.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173-27, 36 FR 10858, July 3, 1970; Amdt. 173-54, 36 FR 18469, Sept. 15, 1971; Amdt. 173-94, 41 FR 16070, Apr. 15, 1976]

§ 173.159 Burnt cotton.

(a) "Burnt cotton" is cotton that has been on fire and from which the burnt portions have not been removed by repicking. It must not be offered for transportation until at least 10 days have elapsed since the last evidence of fire in it.

(b) When burnt cotton is picked and baled, the separated unburnt cotton is subject to the same regulations as cotton that has not been involved in a fire. See § 172.101 of this subchapter.

[Amdt. 173-94, 41 FR 16070, Apr. 15, 1976]

§ 173.160 Calcium chlorite and sodium chlorite.

(a) Calcium chlorite and sodium chlorite must be packed in specification containers as follows:

(1) Spec. 15A, 15B, 15C, 16A or 19A (§§ 178.168, 178.169, 178.170, 178.185 or 178.190 of this subchapter). Wooden boxes with inside containers which must be glass or earthenware not over 2¼ pounds capacity each or metal not over 5 pounds capacity each.

(2) Spec. 6A, 6B, or 6C (§§ 178.97, 178.98 or 178.99 of this subchapter). Metal barrels or drums.

(3) Spec. 17E, 17H, 37A, or 37B (§§ 178.116, 178.118, 178.131 or 178.132 of this subchapter). Metal drums (single-trip).

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16070, Apr. 15, 1976]

§ 173.161 Calcium phosphide.

(a) Calcium phosphide must be packed in specification containers as follows:

(1) Spec. 15A or 15B (§§ 178.168 or 178.169 of this subchapter). Wooden boxes lined, spec. 2F (§ 178.25 of this subchapter), and with hermetically sealed inside containers.

(2) Spec. 6A, 6B, or 6C (§§ 178.97, 178.98, or 178.99 of this subchapter). Metal barrels or drums.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16070, Apr. 15, 1976]

§ 173.162 Charcoal.

(a) "Limited quantities of charcoal, as described in this paragraph, are excepted from labeling (except when offered for transportation by air) and specification packaging requirements of this subchapter. In addition, shipments are not subject to Subpart F of Part 172 of this subchapter, to Part 174 of this subchapter except § 174.24 and to Part 177 of this subchapter except § 177.817.

(1) Charcoal, activated.

(2) Charcoal made from pine wood and processed so that it is not liable to heat dangerously or cause fires in transportation.

(3) Charcoal briquettes made from wood charcoal with starch and water, or tar, for a binder, which have been screened and cooled to a temperature below 100° F., before being offered for transportation.

(4) Charcoal screenings made from "pinon" wood.

(5) Charcoal made from walnut shells, corn cobs, peach pits, and similar material, must be cooled and held not less than five days before shipment, and shipped in bags, barrels, or boxes. The five-day holding period shall not apply to charcoal briquettes screened and cooled to a temperature below 100° F. before being offered for transportation.

(6) Charcoal, lump, made by the old kiln or pit method by which long air exposure is provided before shipment.

(7) Charcoal, wood, except charcoal screenings, when packed in boxes or barrels.

(8) Charcoal, wood, when in bags in less-than-carload or less-than-truckload shipments of not exceeding 2,000 pounds.

(9) When offered for transportation by air, charcoal must be packaged in boxes or barrels.

(10) Charcoal screenings or ground, crushed, granulated, or pulverized charcoal, from pit or kiln burned charcoal, provided the screenings or the material from which the ground charcoal is made has been exposed to the air for not less than 5 days prior to shipment or grinding (see paragraphs (j) and (k) of this section).

(11) Special exceptions for shipment of charcoal in the ORM-D class are provided in Subpart N of this part.

(b) Charcoal made in round retorts must be transferred to air-tight metal cans for cooling, and must be kept in these cans for 24 hours or more. The charcoal after removal from these cans should be aired by spreading on a floor to a depth not exceeding 1 foot. This air exposure must last not less than 44 hours. Not less than 72 hours should elapse from the time the air exposure of the charcoal commences before a car loaded with it is closed for shipment, or before the lump charcoal is placed in paper bags.

(1) The charcoal during this airing period must be protected from the weather, and exposed to good circulation of air. When the charcoal is aired on the floor for only 24 hours and then placed in burlap bags, it must be kept in the bags 60 hours before shipment. If the charcoal is not aired on the floor for at least 24 hours, it must be kept in the burlap bags for at least 96 hours before loading for shipment.

(c) Charcoal made in ovens in slatted cars should be kept for two periods of 24 hours each in first and secondary air-tight cooling chambers respectively. After removing the charcoal from the secondary coolers it must be exposed to good air circulation, but protected from the weather for a period of not less than 44 hours.

(1) Not less than 72 hours must elapse from the time the air exposure of the charcoal commences before a car loaded with it is closed for shipment, or before the lump charcoal is placed in paper bags.

(d) When fire occurs in charcoal during air exposure period, it should be extinguished with as little water as possible. Any charcoal wet in this way or otherwise must be dried, by again heating in the retorts or ovens, and cooled and aired in the usual way described in paragraphs (b) and (c) of this section, or the charcoal must be set aside and allowed to dry for not less than 30 days before shipment.

(e) Charcoal, lump, must be dry and free from screenings and brands.

(1) Shipments must be loaded into tight box cars, tight container cars, or into tight closed-top hopper cars, except that lump charcoal made from soft wood may be shipped in open or stock cars.

(2) When a chute is used in loading the car, the chute must contain a properly constructed screen which must be kept clean. This screen shall be not less than ¾ inch mesh. Forks with prongs not less than 1 inch apart must be used instead of shovels to handle the charcoal. The screenings which accumulate in the doorway of the car must be removed before loading the doorway. The car should be swept before loading, and a car which has contained lime must be thoroughly cleaned before loading with charcoal. The doors of the car must be closed tightly before the car is forwarded.

(3) Lump charcoal may be shipped in bags, barrels or boxes, or bulk in cars.

(4) Lump charcoal, dry and free from screenings and brands, may be shipped in bulk in motor vehicles. Vehicle must be swept before loading and if it contained lime it must be thoroughly cleaned.

(f) Charcoal screenings consist of small pieces of charcoal varying from about one-half inch in the maximum dimension to grains of dust. These screenings are more liable to produce fires than other forms of charcoal. Charcoal screenings from wet charcoal or wet screenings or screenings which have been wet must not be offered for shipment unless they have been dried for not less than 12 hours in a retort or oven, and then subjected to not less than 10 days airing and cooling before shipment.

(1) Charcoal screenings must be stored in a dry place, in loosely piled bags, freely exposed to the air for not less than 20 days after separation from the lump before shipment.

(2) Screenings from pine-wood charcoal must be stored as above described for not less than five days before shipment.

(3) Charcoal screenings must be packed in cotton or jute bags of not greater than 4 bushels capacity.

(g) Charcoal ground, crushed, granulated, or pulverized is prepared from either lump charcoal or screenings.

(1) Lump charcoal used for the preparation of ground, crushed, granulated, or pulverized charcoal must be stored subject to ventilation, and protected from the weather for not less than 20 days after its removal from the coolers before milling; or the ground, crushed, granulated or pulverized charcoal must be stored in bags, subject to ventilation and protected from the weather for not less than 20 days before shipment. Lump charcoal made from pine wood must be stored as above described for not less than 5 days before milling. Ground, crushed, or granulated charcoal made by the "Stafford" process must be stored subject to ventilation and protected from the weather for not less than 7 days before shipment in lieu of the 20-days' storage otherwise prescribed.

(2) Charcoal screenings used for the preparation of ground, crushed, granulated, or pulverized charcoal must be stored in a dry place in loosely piled cotton or jute bags freely exposed to air for a period of not less than 20 days after separation from the lump charcoal, and before milling; or the ground, crushed, granulated, or pulverized charcoal must be stored in bags, subject to ventilation and protected from the weather for not less than 20 days before shipment. Charcoal screenings made from pine wood charcoal must be stored as above described not less than 5 days before milling.

(3) Ground, crushed, granulated, or pulverized charcoal must be packed in tight sift-proof wooden barrels or boxes containing not more than 4 bushels each; or in fiberboard boxes; or in unlined jute bags, or in strong unlined cotton bags, containing not more than 4 bushels each; or in paper-lined jute bags, or in paper bags, containing not more than 2½ bushels each. Whenever practicable, all boxes, barrels, or bags, after filling, should be allowed to remain open and freely exposed to the air, and protected from the weather for not less than 24 hours before being closed. Ground, crushed, granulated, or pulverized charcoal made from pine-wood charcoal should be so stored for not less than 72 hours before the packages are closed.

(h) Charcoal, screenings or ground, crushed, granulated or pulverized charcoal, in bags, when loaded in cars for shipment by rail must be so loaded that the bags are laid horizontally in the car, and so piled that there will be spaces for efficient air circulation. These spaces must be not less than 4 inches wide. If the bags are not compactly filled and closed so as to avoid free space within, transverse wooden strips must be laid between the bags and extending the full width of the car; these strips should be approximately 2 feet apart vertically and longitudinally. The bags must not be piled closer than 6 inches from the top of the car, and no more than 26,000 pounds of screenings, ground, granulated, crushed, or puverized charcoal, shall be loaded in a 36-foot, 6-inch car, 27,000 pounds in a 37-foot, 6-inch car, 28,000 pounds in a 38-foot, 6-inch car, 29,000 pounds in a 39-foot, 6-inch car, 36,000 pounds in a 40-foot, 6-inch car, and 40,000 pounds in a 50-foot, 6-inch car. A tight car must be used, and any loose material must be swept up and removed from the doorway of the car before completing the loading. On recommendation of the Bureau of Explosives, other methods of loading shown to be at least equally efficient in securing the necessary ventilation will be authorized.

(i) See § 177.838 of this subchapter for loading in motor vehicles.

(j) Charcoal burned in pits or kilns must be thoroughly cooled in the sealed kilns. After the kilns are opened, the charcoal must be allowed to stand in the open kiln or elsewhere exposed to the air for not less than 24 hours before loading in a freight car. Charcoal burned in kilns may be loaded in open cars or in box cars, but after loading in box cars, the cars must be allowed to stand not less than 24 hours with doors open before shipment.

(k) Screenings, or ground, crushed, granulated, or pulverized charcoal, from pit or kiln burned charcoal, are considered as non-hazardous, provided the screenings or the material from which the ground charcoal is made has been exposed to the air for not less than 5 days prior to shipment or grinding.

(l) Reburned charcoal must be cooled and exposed to good fresh-air circulation for not less than five days after removal from the reburning furnaces and before being shipped or ground to produce ground or pulverized charcoal.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16070, Apr. 15, 1976; Amdt. 173-94, 41 FR 40681, Sept. 20, 1976]

§ 173.163 Chlorate of soda, chlorate of potash, and other chlorates.

(a) Chlorate of soda, chlorate of potash, and other chlorates must be packed in specification containers as follows:

(1) Spec. 6A, 6B, or 6C (§§ 178.97, 178.98, or 178.99 of this subchapter). Metal barrels or drums.

(2) Spec. 17E, 17H, 37A, or 37B §§ 178.116, 178.118, 178.131, or § 178.132 of this subchapter). Metal drums (single-trip).

NOTE 1: Specs. 37A and 37B. Metal drums for export service, marked for an authorized gross weight of 160 pounds, must be at least 24 gauge metal throughout.

(3) Spec. 21C, 22A, or 22B (§ 178.224, § 178.196 or § 178.197 of this subchapter). Fiber or plywood drums with inside metal drums, spec. 2F (§ 178.25 of this subchapter). Authorized net weight not over 225 pounds.

(4) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185 or 178.190 of this subchapter). Wooden boxes with tightly closed inside containers which must be of metal not over 10 pounds capacity each; or of glass not over 5 pounds each; or of fiber, spec. 2G (§ 178.26 of this subchapter), not over 6 pounds capacity each.

(5) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with inside metal cans not over 5 pounds capacity each, closed air tight and with not over 25 pounds of chlorate in the outside container.

(6) Chlorates wet with 10 percent or more of water are authorized for shipment in tank cars, spec. 103,[1] 103-W, 111A60-F-1, or 111A60-W-1 (§§ 179.200, 179.201 of this subchapter), when equally distributed therein.

(7) Chlorate of soda, dry, is authorized for shipment in aluminum or steel tank car tanks, steel cargo tank vehicles,

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[1] Use of existing tank cars authorized, but new construction not authorized.

tight sift-proof covered hopper cars, or tight sift-proof covered hopper type motor vehicles. Tank car tanks, cargo tank vehicles, hopper cars, and hopper type motor vehicles must be thoroughly cleaned before loading.

(8) Spec. 12A (§ 178.210 of this subchapter). Fiberboard boxes with inside glass bottles not over 5 pounds capacity each. Not more than four bottles having capacity of 5 pounds each, shall be packed in one outside container. Shipper must have established that completed package meets test requirements prescribed by § 178.210-10 of this chapter.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173-94, 41 FR 16070, Apr. 15, 1976]

§ 173.164 Chromic acid or chromic acid mixture, dry.

(a) Chromic acid and chromic acid mixture, dry, must be packaged as follows:

(1) Spec. 6A, 6B, or 6C (§§ 178.97, 178.98, or 178.99 of this subchapter). Metal barrels or drums.

(2) Specifications 17H or 37A (§§ 178.118, 178.131 of this subchapter) metal drums. A specification 37A metal drum constructed from 22-gauge steel throughout is authorized for a gross weight of 490 pounds or less when it is shipped in a carload or truckload lot.

(3) Spec. 15A or 15B (§§ 178.168 or 178.169 of this subchapter). Wooden boxes, with inside glass bottles of not greater than 5 pounds capacity each, with closures securely fastened, each bottle individually packed in a tight metal container, and cushioned therein with incombustible mineral packing material; or with tightly closed metal inside containers, not over 10 pounds capacity each.

(4) Spec. 12A (§ 178.210 of this subchapter). Fiberboard boxes with inside glass bottles not over 5 pounds capacity each. Not more than four bottles having capacity of 5 pounds each, shall be packed in one outside container. Shipper must have established that completed package meets test requirements prescribed by § 178.210-10 of this subchapter.

(5) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with metal inside containers which must have closing device securely fastened by positive means (not friction), not over 1-gallon capacity each. Not more than 4 metal containers shall be packed in one outside box.

(6) Spec. 21C (§ 178.224 of this subchapter). Fiber drums lined with a saran plastic material having a minimum thickness of 0.002 inch. Authorized net weight not over 115 pounds.

[29 FR 18709, Dec. 29, 1964, as amended by Order 71, 31 FR 9070, July 1, 1966. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16070, Apr. 15, 1976]

§ 173.165 Coal, ground bituminous, sea coal, coal facings.

(a) Coal, ground bituminous, sea coal, coal facings, 90 percent of which will pass through a 100-mesh sieve, must be stored for at least six days after grinding, or if not so stored must be shipped in tight metal tank cars or in tight metal containers on container cars, or in permanently covered metal hopper cars, or in other tight metal containers, or in tight, metal-bodied, covered motor vehicles.

(b) Coal, ground bituminous, which has been dried by heating before grinding must be packed in hermetically sealed metal-lined wooden boxes or air-tight metal containers.

§ 173.166 Cobalt resinate, precipitated, calcium resinate, and calcium resinate fused.

(a) Cobalt resinate, precipitated, calcium resinate, and calcium resinate fused, must be packed in specification containers as follows:

(1) Spec. 6A, 6B, or 6C (§§ 178.97, 178.98, or 178.99 of this subchapter). Metal barrels or drums.

(2) Spec. 17E, 17H, 37A, or 37B (§§ 178.116, 178.118, 178.131, or § 178.132 of this subchapter). Metal drums (single-trip).

(3) Spec. 14A or 15B (§§ 178.168 or 178.169 of this subchapter). Wooden boxes with air-tight metal inside containers.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16070, Apr. 15, 1976]

§ 173.167 Cotton waste, oily.

(a) Cotton waste, oily with more than 5 percent of vegetable or animal oil must be packed as follows:

(1) In hermetically sealed metal-lined wooden boxes or air-tight metal containers.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16070, Apr. 15, 1976]

§ 173.168 Lithium amide, powdered.

(a) Lithium amide, powdered, must be packed as follows:

(1) As prescribed in § 173.154(a)(1), (2), (5), (8) and (11).

(2) Spec. 21C (§ 178.224 of this subchapter). Fiber drums with inside metal drums, spec. 2F (§ 178.25 of this subchapter). Authorized net weight not over 225 pounds.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16070, Apr. 15, 1976]

§ 173.169 Fiber, burnt.

(a) Fiber, burnt, must be packed in hermetically sealed metal-lined wooden boxes or airtight metal containers.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16070, Apr. 15, 1976]

§ 173.170 Fibers or fabrics impregnated, saturated or coated.

(a) Fibers or fabrics impregnated, saturated or coated with animal or vegetable oils, or organic substances, manufactured articles or processed materials which are liable to spontaneous heating or combustion in transit must be packed in hermetically sealed metal-lined wooden boxes or airtight metal containers.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16070, Apr. 15, 1976]

§ 173.171 Fish scrap or fish meal.

(a) Fish scrap or fish meal containing less than 6 or more than 12 percent moisture (does not include wet acidulated fish scrap with moisture 40 to 55 percent), or which has not been sufficiently cooled after manufacture, or is liable to spontaneous heating in transit, must be packed in air-tight metal containers.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16070, Apr. 15, 1976]

§ 173.172 Hair, wet.

(a) Hair, wet, must not be offered for transportation except in gondola cars or in open motor vehicles with metal bodies.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16070, Apr. 15, 1976]

§ 173.173 Aluminum dross or magnesium dross.

(a) Aluminum dross or magnesium dross must not be shipped when hot or when containing moisture liable to cause heating or fire during transportation.

§ 173.174 Iron sponge, spent oxide, spent iron mass, spent iron sponge.

(a) Iron sponge that has not been properly oxidized during manufacture must be packed in hermetically sealed metal-lined wooden boxes or air-tight metal containers.

(b) [Reserved]

(c) Spent oxide, spent iron mass, or spent iron sponge must be loaded in open steel cars or open highway vehicles with steel bodies. After exposure to air for a period of not less than 10 days, these articles may be offered for transportation by carrier by water in bulk in all-steel barges having open holds.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16070, Apr. 15, 1976]

§ 173.175 Lacquer base, or lacquer chips, dry.

(a) Lacquer base, or lacquer chips, dry, must be packed in specification containers as follows:

(1) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with inside metal containers, spec. 2F (§ 178.25 of this subchapter).

(2) Spec. 6A, 6B, or 6C (§§ 178.97, 178.98, or 178.99 of this subchapter). Metal barrels or drums.

(3) Spec. 17E, 17H, 37A, 37B, or 37C (§§ 178.116, 178.118, 178.131, 178.132, or 178.135 of this subchapter). Metal drums (single-trip), or spec. 37C (non-reusable container).

(4) Spec. 21C (§ 178.224 of this subchapter). Fiber drums. Authorized net weight not over 225 pounds.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16070, Apr. 15, 1976]

§ 173.176 Matches.

(a) Matches, when offered for transportation, must be of a type that will not ignite spontaneously when subjected for eight consecutive hours to a temperature **of 200° F., in a properly conducted laboratory test. They must not exceed 3 inches in length, nor have a stick exceeding .015 square inch in cross-section area.**

(b) For the purpose of Parts 170–189 of this subchapter, matches are divided into two classes, viz: (1) "strike-anywhere" and block matches and (2) "strike-on-box," book, and card matches. Strike-anywhere and block matches are those for the ignition of which a prepared surface is not required. Strike-on-box, book, and card matches are those **matches intended to be ignited on a prepared surface. Book and card matches may be fastened to a cover or folder, or the prepared match strips may not be so attached or covered.**

(c) Packing. Matches, strike-anywhere, must not be packed in the same outside package with any other article, except that book, card and "strike-on-box" matches may be included when packed in separate inside containers.

(1) Matches, strike-anywhere, must be placed in individual containers consisting of an outer sliding shuck or cover and an inner holding tray or box, or securely closed chipboard or fiberboard boxes. Individual containers consisting of a holding tray or box with a top that telescopes over the box may be used. Boxes of suitable "hang-up" type may also be used if approved by the Bureau of Explosives. All match boxes, covers, and trays must be made of cardboard, wood, or metal, except that paper wrappings may be used for block or card matches.

(2) Individual containers must be wrapped in paper with not more than 12 boxes or individual containers in each paper-wrapped package, except that paper wrapping is not required for boxes that have a center holding or protecting strip of cardboard of the size and type detailed in subparagraph (3) of this paragraph placed over the matches in the manner specified or as otherwise provided herein. Paper-wrapped packages must be secured on the ends and on the lapping side with glue, or similar satisfactory adhesive making each 12 boxes or less of matches a serviceably wrapped and well secured packages. Chipboard or fiberboard boxes constructed of material not less than 0.018 inch thick, having flaps secured by adhesive or closed by **specially designed flaps or tabs formed to secure tight closures, are not required to be wrapped in paper.**

(3) No individual container (not including card or block matches) shall contain more than 700 strike-anywhere matches in any one container, box, or package. When more than 300 matches are packed in any individual container, box, or package, the matches must be arranged in two nearly equal portions with the heads of the two portions placed in opposite directions. All individual containers containing 350 or more matches must have placed over the matches a center holding or protecting strip made of cardboard, which can be scored or bent without fracture, except the center holding strip shall not be required when matches are packed in chipboard or fiberboard boxes detailed in subparagraph (2) of this paragraph. This protecting strip shall be not less than 1¼ inches wide and shall be flanged down at least ⅝ inch on each end to hold the matches in position when the container is nested into the shuck or cover or withdrawn therefrom.

(d) Matches, unless exempted in paragraph (g) or (h) of this section, must be packaged as follows:

(1) Spec. 15A (§ 178.168 of this subchapter). Wooden boxes, with inside con**tainers; not over 100 pounds each.**

(2) Spec. 12B or 12C (§ 178.205 or § 178.206 of this subchapter). Fiberboard **boxes with inside containers; not over 60 pounds each. Fill-in pieces specified by § 178.205–14 or § 178.206–14 of this** subchapter shall not be required.

(3) The maximum number of match boxes contained in any one case shall be as follows:

Number of boxes	Nominal number of matches per box
½ gross	Not over 700.
1 gross	Not over 500.
2 gross	Not over 400.
3 gross	Not over 300.
5 gross	Not over 200.
12 gross	Not over 100.
20 gross	Over 50. Under 100.
25 gross	Not over 50.

(e) [Reserved]

(f) Marking. Outside containers of strike-anywhere matches shall show the name of the importer, distributor, or manufacturer and the brand or trademark under which such matches are manufactured and distributed to the trade. The name shall be printed in English.

(1) In addition, and separate therefrom, all outside containers shall have plainly marked thereon the words "STRIKE-ANYWHERE MATCHES".

(g) Matches, strike-on-box, book, and card are not subject to Parts 170–189 of this subchapter if packed with no other articles in outside fiberboard or wooden boxes.

(h) Limited quantities of matches, strike-on-box, book, and card when packaged in outside fiberboard or wooden boxes may be packed in the same outside packaging with nonflammable materials. They must be compactly packed in tightly closed inside packagings or securely wrapped to prevent accidental ignition. When so packed, they are excepted from labeling (except when offered for transportation by air) and specification packaging requirements of this subchapter. The outside of each package must be marked "BOOK MATCHES," "STRIKE-ON-BOX MATCHES," or "CARD MATCHES," as appropriate. In addition, shipments are not subject to Subpart F of Part 172 of this subchapter, to Part 174 of this subchapter except § 174.24 and to Part 177 of this subchapter except § 177.817.

[29 FR 18709, Dec. 29, 1964, as amended by Order 66, 30 FR 5744, Apr. 23, 1965. Redesignated, 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16070, Apr. 15, 1976; Amdt. 173-94A, 41 FR 40681, Sept. 20, 1976]

§ 173.177 Motion-picture film and X-ray film.

(a) Motion-picture film and X-ray film (nitrocellulose base) must be packed in specification containers as follows:

(1) Spec. 32A or 32B (§§ 178.146 or 178.147 of this subchapter). Metal cases.

(2) Spec. 15A, 15B, or 15C (§§ 178.168, 178.169, or 178.170 of this subchapter). **Wooden boxes with each reel in a tightly closed metal can, or strong cardboard or fiberboard box with cover held in place by adhesive tape or paper; gross weight not over 200 pounds.**

(3) Spec. 12B (§ 178.206 of this subchapter). Fiberboard boxes complying with § 178.205–22(a)(1) of this subchapter; authorized for a single tightly closed inside metal can or strong cardboard or fiberboard box with cover held in place by adhesive tape or paper, not over 2,000 feet of film. Taped closure authorized.

(4) Spec. 12B (§ 178.205 of this subchapter). One-piece fiberboard boxes complying with § 178.205–22(a)(2) of this subchapter; authorized only when each film is in a tightly closed metal film-reel can or strong cardboard or fiberboard box with cover held in place by adhesive tape or paper containing not over 2,000 feet (approximately) of film; cans or boxes to be adequately braced in center of box by fiberboard, at least 175-pound test, extending full depth of box. Gross weight not over 65 pounds. Closing of box must be effected by coating entire contact surfaces of flaps with efficient adhesive; stitched closure not authorized. Boxes that have been filled, shipped, and opened, are not authorized for reuse.

(5) Spec. 32C (§ 178.148 of this subchapter). Trunks with each film in standard metal film-reel can or strong cardboard or fiberboard box with cover held in place by adhesive tape or paper. Trunks to contain no material other than films in cans or boxes and projecting apparatus. The apparatus, as packed, must not be capable of creating an electric current.

(6) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes complying with § 178.205–27 of this subchapter; authorized only for not more than two square inside metal cans containing not over 200 feet (approx.) of film each; gross weight not over 15 pounds. Taped closure authorized.

(b) Slow burning motion-picture film is excepted from the requirements of this subchapter, except when packed with flammable film.

[29 FR 18709, Dec. 29, 1964. Redesignated, at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16070, Apr. 15, 1976]

§ 173.178 Calcium carbide.

(a) Calcium carbide must be packed as follows:

(1) In water-tight metal drums with rolled, folded top and bottom seams and with welded side seams. Closures must be of the friction-type or screw-type. Full open-top closures must be gasketed and equipped with leverlock or bolted clamping ring. Maximum rated capacity may not exceed 55 gallons.

(2) In water-tight, sift-proof, bulk metal containers.

(3) In water-tight, sift-proof, closed-top metal covered hopper rail cars.

(4) In water-tight, sift-proof, closed-top metal covered hopper motor vehicles.

[Amdt. 173-94, 41 FR 16071, Apr. 15, 1976]

§§ 173.179—173.181 [Reserved]

§ 173.182 Nitrates.

(a) Aluminum nitrate, ammonium nitrate (no organic coating), ammonium nitrate (organic coating), ammonium nitrate-carbonate mixture, ammonium nitrate-phosphate, ammonium nitrate fertilizer,[1] (containing no more than 0.2 percent carbon), ammonium nitrate mixed fertilizer, barium nitrate, calcium nitrate (NOTE: The double salt of calcium and ammonium nitrate (5Ca $(NO_3)_2NH_4NO_3 \cdot 10H_2O$) containing not more than 15.5 percent nitrogen and at least 12 percent water is not subject to the regulations in this subchapter), guanidine nitrate, lead nitrate, magnesium nitrate, nitrates, n.o.s., nitrate of soda and potash, nitro carbo nitrate (see Note 1), potassium nitrate, silver nitrate, sodium nitrate, and strontium nitrate must be packaged as follows:

(1) In wooden or fiberboard boxes with glass, metal, or other strong inside containers; in metal or fiber drums; in kegs or barrels; or in strong metal cans. When so packed, they are excepted from the specification packaging requirements of this Part.

NOTE 1. Nitro carbo nitrate is a mixture consisting substantially of inorganic nitrates and carbonaceous materials, in which none of the ingredients are explosive as defined in this part and which as packaged for shipment cannot be detonated by means of a No. 8 test blasting cap as described herein. (A No. 8 test blasting cap is one containing two grams of a mixture of 80 percent mercury fulminate and 20 percent potassium chlorate or a cap of equivalent strength.)

(b) Aluminum nitrate, ammonium nitrate (no organic coating), ammonium nitrate-carbonate mixture, ammonium nitrate-phosphate, ammonium nitrate fertilizer[1] (containing no more than 0.2 percent carbon) ammonium nitrate mixed fertilizer, barium nitrate, calcium nitrate, guanidine nitrate, nitrate of soda and potash, potassium nitrate, sodium nitrate, and strontium nitrate, in addition to containers prescribed in paragraph (a) of this section, may be packaged as follows:

(1) In bulk, in tightly closed freight cars.

(2) In bulk, in sift-proof closed or open type motor vehicles.

(3) [Reserved]

(4) In burlap bags not exceeding 200 pounds net weight, water-resistant, made tight against sifting, and made of not less than 7½-ounce burlap.

(5) Multiple-wall paper bags must be constructed as follows:

(i) At least 4-ply including moisture-barrier ply, and made tight against sifting. Maximum authorized net weight is 110 pounds. Completed package, filled to weight with product and closed for shipment, must be capable of withstanding three 4-foot drops on face or back onto solid concrete without rupture.

(ii) At least 3-plies of extensible kraft paper having a minimum total basis weight of 180 pounds including an innermost ply coated with polyethylene to provide a moisture barrier. Maximum authorized net weight is 80 pounds. Completed package, filled to weight with product and closed for shipment, must be capable of withstanding three 4-foot drops on face or back onto solid concrete without rupture.

(6) Plastic bags must be constructed as follows:

(i) Specification 44P (§ 178.241 of this subchapter). All plastic bags. Maximum authorized net weight is 81 pounds. Authorized only for ammonium nitrate mixed fertilizer, and ammonium nitrate fertilizer (containing no more than 0.2 percent carbon).

(ii) Polypropylene bag made of 9 denier polypropylene fibers spun continuously to form a sheet weighing at least 3½ ounces per square yard. Maximum authorized net weight is 100 pounds. Each bag must have an inner liner of polyethylene not less than 4 mils thick. Each bag filled to weight with product and closed for shipment must be capable of withstanding three 4-foot drops on face or back onto solid concrete without rupture. Authorized only for ammonium nitrate (no organic coating) and ammonium nitrate fertilizer; or

(iii) Polyethylene bag made of two plies of high-density polyethylene film laminated together so that the orientation of each ply of film is at right angles to the other. Maximum authorized net weight is 100 pounds. For a net weight not exceeding 50 pounds, the thickness of each bag must be at least 2.5 mils. For a net weight exceeding 50 pounds but not exceeding 100 pounds, the thickness of each bag must be at least 4 mils. Each bag must be capable of withstanding the test requirements of § 178.241-4 and each bag must be in compliance with the requirements of § 178.241-3 of this subchapter for bag closures. Authorized only for ammonium nitrate (no organic coating), ammonium nitrate fertilizer, and sodium nitrate.

(7) Specification 53[2] or 56 (§§ 178.251, 178.252 of this subchapter). Portable tank. Authorized only for sodium nitrate.

(c) Nitro carbo nitrate, in addition to the packagings prescribed in paragraph (a) of this section, may be packaged as follows:

(1) Burlap bags, water-resistant, made tight against sifting and made of not less than 7½-ounce burlap. Maximum authorized net weight is 100 pounds.

(2) In multi-wall paper bags of at least 4-ply construction including moisture-barrier ply, and made tight against sifting. Maximum authorized net weight is 100 pounds. Completed package, filled to weight with product and closed as for shipment, must be capable of withstanding three 4-foot drops on the face or back onto solid concrete without rupture.

[Amdt. 173-94, 41 FR 16071, Apr. 15, 1976, as amended by Amdt. 173-94A, 41 FR 40681, Sept. 20, 1976]

§ 173.183 Potassium nitrate mixed (fused) with sodium nitrite.

(a) Potassium nitrate mixed (fused) with sodium nitrite must be packed in containers as follows:

(1) In containers as prescribed in § 173.182 (a).

(2) Spec. 103-W (§§ 179.200 and 179.201 of this subchapter). Tank cars specially designed, equipped and approved for this service without bottom discharge outlet and with heavier plate thicknesses than the minimum prescribed for cars built under this specification. For specification 103-W tank cars made of plates having the minimum prescribed thicknesses, internal reinforcement of the upper sheets of tank in the region of the dome and reinforcing plates attached to the bottom sheet of the tank which rests on bolsters is required, and these tanks must be equipped with baffle plates. Heater pipes must be of welded construction designed for a test pressure of 500 pounds per square inch. A 1-inch woven asbestos lining must be placed between bolster slabbing and bottom of tank to prevent heat transmission. Safety vents of the frangible disc type may be used and if used the frangible discs must be perforated with ⅛ inch hole. If safety valves are used, a vacuum relief valve must be installed on the dome. Tanks must be stencilled on both sides "Fused Potassium Nitrate and Sodium Nitrite Only".

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16071, Apr. 15, 1976]

§ 173.184 Nitrocellulose or collodion cotton, wet, or nitrocellulose, colloided, granular, or flake, wet, or nitrostarch, wet, or nitroguanidine, wet.

(a) Nitrocellulose or collodion cotton, wet, or nitrocellulose, colloided, granular, or flake, wet, or nitrostarch, wet, or nitroguanidine, wet, must be uniformly wet with at least 20 pounds of water to

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[1] Applies only to materials tested in accordance with and meeting the definition in The Fertilizer Institute's publication "Definition and Test Procedures for Ammonium Nitrate Fertilizer" dated May 7, 1971.

[2] Use of existing tanks authorized. Construction not authorized after May 31, 1972.

80 pounds of dry material and must be packed in specification containers as follows:

(1) [Reserved]

(2) Spec. 14, 15A, or 15B (§ 178.165, § 178.168, or § 178.169 of this subchapter) Wooden boxes lined, spec. 2M (§ 178.31 of this subchapter).

(3) Spec. 6A, 6B, 6C, or 6J (§ 178.97, § 178.98, § 178.99, or § 178.100 of this subchapter). Metal barrels or drums not over 55 gallons capacity. Spec. 6J (§ 178.100 of this subchapter) drums must have removable heads of 14 gauge metal or 16 gauge metal with one or more corrugations near the periphery and heads must have a minimum convexity of ⅜ inch; each drum must have three rolled or swedged-in hoops, one of which shall be in the body near the top curl.

(4) Spec. 37A or 37B (§ 178.131 or § 178.132 of this subchapter). Metal drums (single-trip) not over 5 gallons capacity. Welded side seams required.

(5) Spec. 17E or 17H (§§ 178.116 or 178.118 of this subchapter). Metal drums (single-trip).

(6) Spec. 42 F (§ 178.110 of this subchapter). Aluminum barrels or drums.

(b) Gross weight of any container must not exceed 490 pounds.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173-81, 39 FR 17317, May 15, 1974; Amdt. 173-94, 41 FR 16071, Apr. 15, 1976]

§ 173.185 Paper stock, wet.

(a) Paper stock, wet must be packed in hermetically sealed metal-lined wooden boxes or air-tight metal containers.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16071, Apr. 15, 1976]

§ 173.186 Paper waste, wet.

(a) Paper waste, wet, must be packed in hermetically sealed metal-lined wooden boxes or air-tight metal containers.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16071, Apr. 15, 1976]

§ 173.187 Peroxide of sodium.

(a) Peroxide of sodium must be packed in specification containers as follows:

(1) Specification 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, 178.190 of this subchapter). Wooden boxes with inside containers which must be air-tight metal cans.

(2) Spec. 6A, 6B, or 6C (§§ 178.97, 178.98, or 178.99 of this subchapter). Metal barrels or drums.

(3) Spec. 17E, 17H, 37A, or 37B (§§ 178.116, 178.118, 178.131, or § 178.132 of this subchapter). Metal drums (single-trip).

(4) Spec. 12A or 12B (§ 178.210 or § 178.205 of this subchapter). Fiberboard boxes with inside air-tight metal cans not over 5 pounds capacity each.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173-81, 39 FR 17317, May 15, 1974; Amdt. 173-94, 41 FR 16071, Apr. 15, 1976]

§ 173.188 Phosphoric anhydride.

(a) Phosphoric anhydride must be packed in specification containers as follows:

(1) Specification 15A, 15B, or 15C (§§ 178.168, 178.169, 178.190 of this subchapter). Wooden boxes with inside containers which must be tightly stoppered glass bottles not over 1 pound capacity each; or metal cans, not over 3 pounds capacity each, hermetically sealed (soldered) or closed with cork securely held in place by metal strap soldered in position. All inside containers must be cushioned with elastic incombustible packing materials.

(2) Spec. 6A, 6B, or 6C (§§ 178.97, 178.98 or 178.99 of this subchapter). Metal barrels or drums.

(3) Spec. 17E, 17H, 37A, or 37B (§§ 178.116, 178.118, 178.131, or § 178.132 of this subchapter). Metal drums (single-trip).

(4) Specification 6K (§ 178.101 of this subchapter). Metal drums. Authorized only for carload or truckload shipments by rail freight or highway and must be loaded by the shipper and unloaded by the consignee or his duly authorized agent. Authorized net weight not over 600 pounds. If the gross weight is more than 480 pounds, the shipper must have established that the drums meet the drop test requirements prescribed in § 178.101-11 of this subchapter at 600 pounds gross weight.

(5) Spec. 12A (§ 178.210 of this subchapter). Fiberboard boxes with inside glass bottles not over 1 pound capacity each. Not more than 12 bottles shall be packed in one outside box. Shipper must have established that completed package meets test requirements prescribed by § 178.210-10 of this subchapter.

(6) Spec. 12A (§ 178.210 of this subchapter). Fiberboard boxes with inside glass bottles of one-third fluid ounce capacity each. Each bottle shall be packed in a heat-sealed polyethylene or other suitable plastic bag of equal efficiency and not more than 75 such units shall be packed in a heat-sealed polyethylene or other suitable plastic bag of equal efficiency, which shall be placed in a securely closed metal can. Not more than 1 can shall be packed in one outside box.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-6, 34 FR 7161, May 1, 1969; Amdt. 173-81, 39 FR 17317, May 15, 1974; Amdt. 173-94, 41 FR 16071, Apr. 15, 1976]

§ 173.189 Phosphorus, amorphous, red.

(a) Phosphorus, amorphous, red, must be packed in specification containers as follows:

(1) Spec. 15A or 15B (§§ 178.168 or 178.169 of this subchapter). Wooden boxes, with metal inside containers, with closures sealed air-tight and positively fastened.

(2) Spec. 6A or 6B; also 37A or 37B (single-trip containers) (§§ 178.97, 178.98, 178.131, or § 178.130 of this subchapter), for gross weight not over 160 pounds. Metal barrels or drums.

(3) Spec. 29 (§ 178.226 of this subchapter). Mailing tube having not more than 100 grams of phosphorous contained in an inside glass container, sealed under nitrogen or other inert gas, with an air tight closure. The glass container shall be packed in a metal can having air tight closure. Both the inside glass container and the metal can shall be surrounded on all sides with incombustible cushioning material.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16071, Apr. 15, 1976]

§ 173.190 Phosphorus, white or yellow.

(a) Phosphorus, white or yellow, when offered for transportation by rail freight, highway, or water, must be packed in water or dry.

(b) When placed in water it must be packed in specification containers as follows:

(1) Spec. 15A or 15B (§§ 178.168 or 178.169 of this subchapter). Wooden boxes with inside containers, which must be hermetically sealed (soldered) metal cans, inclosed in other hermetically sealed (soldered) metal cans; or hermetically sealed (soldered) metal cans, containing not over 1 pound each, inclosed in other, watertight, metal cans with screw-top closures; or hermetically sealed (soldered) metal cans, inclosed in hermetically sealed (soldered) metal box-lining, spec. 2F (§ 178.25 of this subchapter).

(2) Spec. 5A, 6A, or 6B (§§ 178.81, 178.97, or 178.98 of this subchapter). Metal barrels or drums, not over 30 gallons capacity each.

(3) Spec. 103,[1] 103-W, 111A60-F-1 or 111A60-W-1 (§§ 179.200, 179.201 of this subchapter). Tank cars without bottom outlet for discharge of lading and with approved dome fittings, external heater systems, and with insulation at least 4 inches in thickness, except that thickness of insulation may be reduced to 2 inches over external heater coils. Bottom washout nozzle of approved design may be applied. The material must be immersed in water or be blanketed with an inert gas and be loaded at a temperature not exceeding 140° F. The water must be loaded in the dome to not more than 50 percent of the capacity of the dome. After unloading, the tank must be filled to its entire capacity with an inert gas or to its entire capacity and dome to not more than 50 percent of its capacity with water having a temperature not exceeding 140° F. and placarded with "EMPTY—FLAMMABLE SOLID" placards as described in § 172.525 of this subchapter before the car is offered for return movement.

(i) Each tank car must be marked "PHOSPHORUS" in accordance with the requirements of § 172.330 of this subchapter.

NOTE 1: Because of the present emergency and until further order of the Department, Specification ARA-III[1] tank cars, converted as follows, are authorized for use: Without bottom discharge outlet, with insulation at least 2 inches in thickness, internal heater coils, at least one safety valve or frangible disc safety vent of approved design, and dome equipped for top unloading. Cars to be loaded and unloaded as prescribed in paragraph (b) (3) of this section. Cars to be stencilled immediately above the mark ARA-III[1] with the words "FOR PHOSPHORUS ONLY".

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[1] Use of existing tank cars authorized, but new construction not authorized.

(4) Specification MC 310, MC 311, or MC 312 (§ 178.343 of this subchapter). Tank motor vehicles, without bottom outlet and with insulation at least 4 inches in thickness, except that 2 inches of insulation is authorized for tanks equipped with an exterior heating jacket. Interior heating coils are not authorized. The material must be immersed in water or be blanketed with an inert gas and be loaded at a temperature not exceeding 140° F. After unloading, the tank must be filled to its entire capacity with an inert gas or to its entire capacity with water having a temperature not exceeding 140° F.

(c) Phosphorus, white or yellow, when offered for transportation by air must be packed in water in packaging as follows (also authorized for transportation by rail freight, highway or water):

(1) Spec. 15A or 15B (§§ 178.168 or 178.169 of this subchapter). Wooden boxes with inside containers which must be hermetically sealed (soldered) metal cans, containing not over 1 pound each, inclosed in other water-tight, metal cans with screw-top closures, or with soldered closures.

(2) Samples of phosphorus, white or yellow, not to exceed 4 ounces each, placed in water in sealed metal cylinders or cans, inclosed in a wooden box, spec. 15A or 15B (§§ 178.168 or 178.169 of this subchapter), may be transported only when consigned to the laboratory of the Internal Revenue Bureau or to the Hygienic Laboratory of the Public Health Service, Washington, D.C.

(3) Spec. 29 (§ 178.226 of this subchapter). Mailing tube having a water-tight rigid polyethylene container in which is placed a quartz tube containing not more than 100 grams of phosphorus sealed under nitrogen or other inert gas, with the remaining space in the polyethylene container filled with water. The polyethylene container shall be cushioned within the mailing tube with incombustible cushioning material.

(d) Phosphorus, white or yellow, when dry must be cast solid and shipped in containers as follows:

(1) Spec. 6A, 6B, or 6C (§§ 178.97, 178.98, or 178.99 of this subchapter). Metal barrels or drums not over 30 gallons capacity each.

(2) In projectiles or bombs when shipped by, for, or to the Departments of the Army, Navy, and the Air Force of the United States Government, without bursting elements.

[29 FR 18709, Dec. 29, 1964, as amended by Order 73, 32 FR 3455, March 2, 1967. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16071, Apr. 15, 1976; Amdt. 173-94A, 41 FR 40681, Sept. 20, 1976]

§ 173.191 Phosphorus pentachloride.

(a) Phosphorus pentachloride must be packed in specification containers as follows:

(1) Specification 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, 178.190 of this subchapter). Wooden boxes with inside containers which must be glass or glazed earthenware containers, not over 25 pounds capacity each, cushioned with mineral packing; when inside containers are packed in the same outside container with other articles, they must be enclosed in tightly closed metal cans. Net weight of phosphorus pentachloride not over 50 pounds in each outside container.

(2) Spec. 6A, 6B, or 6C; also 37A or 37B (single-trip containers) (§§ 178.97, 178.98, 178.99, 178.131, or § 178.132 of this subchapter). "Black iron" metal barrels or drums.

(3) [Reserved]

(4) Spec. 28A (§ 178.9 of this subchapter) Metal-jacketed lead carboys.

[29 FR 18709, Dec. 29, 1964. Redesignated, 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173-81, 39 FR 17317, May 15, 1974; Amdt. 173-94, 41 FR 16072, Apr. 15, 1976]

§ 173.192 Picrate of ammonia (ammonium picrate), picric acid, trinitrobenzoic acid, and urea nitrate, wet.

(a) Picrate of ammonia (ammonium picrate), picric acid, trinitrobenzoic acid, and urea nitrate, wet with not less than 10 percent water, in quantity not exceeding 16 ounces in one outside package, may be shipped as drugs, medicines, or chemicals, when in glass bottles securely stoppered, each bottle inclosed in a strong fiber carton properly cushioned in the outside shipping case. No restrictions other than packing prescribed by this section are required when these materials are offered for transportation.

§ 173.193 Picric acid, trinitrobenzoic acid, or urea nitrate, wet.

(a) Picric acid, trinitrobenzoic acid, or urea nitrate, wet with not less than 10 percent water must be packed in specification containers as follows:

(1) Spec. 15A (§ 178.168 of this subchapter). Wooden box with inside containers of tightly closed glass or earthenware cushioned, in outside container. The net weight in an outside package must not exceed 25 pounds dry weight. (See § 173.65(e) for shipment of wet picric acid, wet trinitrobenzoic acid and wet urea nitrate in excess of 25 pounds, and § 173.192 for exemption up to 16 ounces.)

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16072, Apr. 15, 1976]

§ 173.194 Potassium permanganate.

(a) Potassium permanganate must be packed in specification containers as follows:

(1) In containers as prescribed in § 173.154.

(2) In bulk, in sift-proof, self-clearing, covered hopper or bottom outlet steel cars or in sift-proof all steel flat bottom gondola cars with fixed sides and ends equipped with water-proof and dust-proof wooden or steel covers well secured in place for all openings, or in bulk, in motor vehicles with steel, sift-proof, self-clearing hopper-type or dump-type bodies, with water-proof and dust-proof covers, well secured in place. Such cars, when used exclusively in this service and stencilled "FOR POTASSIUM PERMANGANATE ONLY," are not subject to the requirements of § 174.515 of this subchapter.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16072, Apr. 15, 1976]

§ 173.195 Pyroxylin plastic scrap.

(a) Pyroxylin plastic scrap must be packaged as follows:

(1) Spec. 15A or 15B (§§ 178.168 or 178.169 of this subchapter). Wooden boxes lined, spec. 2F or 2M (§§ 178.25, or 178.31 of this subchapter); gross weight not over 450 pounds each.

(2) Spec. 6A, 6B, 6C, or 6J; also 17H, 37A, or 37B (single-trip containers) (§§ 178.97, 178.98, 178.99, 178.100, 178.118, 178.131, or § 178.132 of this subchapter). Metal barrels or drums.

(3) [Reserved]

(4) [Reserved]

(5) Spec. 21C (§ 178.224 of this subchapter). Fiber drums. Must be externally treated to provide protection against moisture. Authorized net weight not over 225 pounds.

(b) Pyroxylin plastic scrap, photographic film scrap, X-ray film scrap, motion picture film scrap, or pieces of exposed or unexposed film which show evidence of decomposition or instability or are liable to decompose or become unstable must be packed submerged in water in specification containers as follows:

(1) Spec. 6A, 6B, or 6C; or 17H (single-trip) (§ 178.97, § 178.98, § 178.99, or § 178.118 of this subchapter). Metal barrels or drums.

(2) Spec. 15A, 15B, or 15C (§ 178.168, § 178.169, or § 178.170 of this subchapter). Wooden boxes with tightly closed inside metal containers.

[29 FR 18709, Dec. 29, 1964. Redesignated, 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-81, 39 FR 17317, May 15, 1974; Amdt. 173-94, 41 FR 16072, Apr. 15, 1976]

§ 173.196 [Reserved]

§ 173.197 Pyroxylin plastics, in sheets, rolls, rods, or tubes.

(a) Pyroxylin plastics, in sheets, rolls, rods, or tubes containing nitrocellulose are subject to this subchapter only when offered for transportation by air or water and then must be packaged as follows:

(1) Spec. 15A, 15B, or 19A (§§ 178.168, 178.169, or 178.190 of this subchapter) Wooden boxes.

(2) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes. Special boxes §§ 178.205-20 and 178.205-21 authorized only for pyroxylin in sheets, rods or tubes.

(3) Sheets rolled, in spec. 21C (§ 178.224 of this subchapter) fiber drums, having 2 straps applied lengthwise and one or more circumferentially; straps at least ½ by 0.02 inch steel. Authorized net weight not over 225 pounds.

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[1] Use of existing tank cars authorized, but new construction not authorized.

(4) Sheets, rolled, not over 15 pounds net weight in fiber tubes lined throughout with singlefaced corrugated fiberboard at least 0.2 inch thick and securely closed; tube material at least 0.115 inch thick for side walls and 0.05 inch thick for ends with strength, Mullen or Cady test, at least 245 and 220 pounds respectively; metal ends for tubes acceptable when lined with fiber discs at least 0.05 inch thick.

(b) Pyroxylin plastics in manufactured articles or articles made therefrom is not subject to Parts 170–189 of this subchapter and 397 of this title.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–94, 41 FR 16072, Apr. 15, 1976]

§ 173.197a Smokeless powder for small arms.

Smokeless powder for small arms in quantities not exceeding 100 pounds net weight transported in one car or motor vehicle may be classed as a flammable solid when approved for this classification by the Bureau of Explosives. Maximum quantity in any inside packaging must not exceed 8 pounds and inside packagings must be arranged and protected to prevent simultaneous ignition of the contents. The complete package must be a type approved by the Bureau of Explosives. Each outside package must bear a flammable solid label.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967. As amended by Amdt. 173–70, 38 FR 5309, Feb. 27, 1973]

§ 173.198 Sodium hydride.

(a) Sodium hydride must be packed in specification containers as follows:

(1) In containers as prescribed in § 173.206 (a) (1) and (a) (2).

(2) Spec. 17H (§ 178.118 of this subchapter). Metal drums (single-trip).

(3) Spec. 37A or 37B (§ 178.131 or § 178.132 of this subchapter). Metal drums (single-trip) with welded side seams and hermetically sealed closure or closure made fast by positive pressure of the lid against a rubber gasket with edge of the lid crimped over the lip of the drum and a protective metal ring fastened around the crimped edge, packed in strong outside wooden boxes.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–94, 41 FR 16072, Apr. 15, 1976]

§ 173.199 Rags, oily.

(a) Rags, oily, with more than 5 percent of vegetable or animal oil, must be packed in hermetically sealed metal-lined wooden boxes, or air-tight metal containers.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–94, 41 FR 16072, Apr. 15, 1976]

§ 173.200 Rags, wet.

(a) Rags, wet, must be packed in hermetically sealed metal-lined wooden boxes, or air-tight metal containers.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–94, 41 FR 16072, Apr. 15, 1976]

§ 173.201 Rubber scrap, rubber buffings, reclaimed rubber, or regenerated rubber.

(a) Rubber scrap, if ground, powdered, or pulverized, and the rubber content of which exceeds 45 percent, as determined by subtracting the sum of the percentage of ash and the percentage of acetone extract from 100; rubber buffings from any grade of rubber, irrespective of the percentage of rubber content; and reclaimed rubber or regenerated rubber, must be packed in specification containers as follows (see paragraph (b) of this section):

(1) Spec. 6A, 6B, or 6C (§§ 178.97, 178.98, or 178.99 of this subchapter). Metal barrels or drums.

(2) Spec. 15A (§ 178.168 of this subchapter). Wooden boxes lined, spec. 2F (§ 178.25 of this subchapter), or 2M (§ 178.31 of this subchapter).

(3) [Reserved]

(4) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes.

(5) Spec. 21C (§ 178.224 of this subchapter). Fiber drums. Authorized net weight not over 225 pounds.

(6) Spec. 22A (§ 178.196 of this subchapter). Wooden drums.

(7) Tank cars tightly and securely closed.

(8) Spec. 36A, 36B, 36C, 44B, or 44E (§§ 178.230, 178.233, 178.234, 178.236, or 178.239 of this subchapter). Bags.

(b) Rubber scrap, reclaimed rubber, or regenerated rubber are not subject to Parts 170–189 and 397 of this title if shipped in the following forms:

(1) Rubber scrap, not ground or ground with cord or fabric insertion, or ground without cord or fabric insertion the particles of which pass over a screen of not less than 5-mesh.

(2) Reclaimed rubber or regenerated rubber when in the form of dense homogeneous nonporous sheets or rolls, the sheets of thickness of ⅛ inch or greater, packed flat or in rolls, or in pelletized form if not less than ¼ inch in diameter, or ground, the particles of which pass over a screen of not less than 5-mesh, all properly cooled before shipment.

(3) Rubber scrap, reclaimed rubber, or regenerated rubber in any form when shipped in covered steel hopper cars, tank cars, or tank or hopper trucks.

[29 FR 18709, Dec. 29, 1964. Redesignated, 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173–81, 39 FR 17317, May 15, 1974; Amdt. 173–94, 41 FR 16072, Apr. 15, 1976]

§ 173.202 Sodium and potassium, metallic liquid alloy.

(a) Sodium and potassium, metallic liquid alloy must be packed in specification containers as follows:

(1) Spec. 15A or 15B (§ 178.168 or § 178.169 of this subchapter). Wooden boxes with inside metal containers of a type approved by the Bureau of Explosives cushioned with incombustible cushioning material. Each container must have been tested hydrostatically to a pressure of not less than 60 pounds per square inch. Closing devices must be protected from injury. Not more than 300 pounds of sodium or potassium liquid alloy may be shipped in one outside container.

(2) Spec. 5A (§ 178.81 of this subchapter), metal barrels or drums not exceeding 400 pounds capacity each, having protruding valves protected by a 12-gauge steel dome securely attached to the head of the drum. Shipments are authorized by rail freight in carload lots only and by motor vehicle in truckload lots only.

(b) Packaging of metallic liquid alloys of sodium or potassium in combination with fissile or large quantities of radioactive material, is authorized as provided in § 173.206(a) (10) and (11).

[29 FR 18700, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended at 39 FR 45240, Dec. 31, 1974; Amdt. 173–94, 41 FR 16072, Apr. 15, 1976]

§ 173.203 Tetranitromethane.

(a) Tetranitromethane must be packed in specification containers as follows:

(1) Spec. 15A or 15B (§§ 178.168 or 178.169 of this subchapter). Wooden boxes, gross weight not exceeding 150 pounds, with inside containers which must be: glass bottles not more than 1 quart capacity each, with closures securely fastened and of a type not deteriorated by the contents, each bottle individually packed in a tight metal container and cushioned therein with absorbent incombustible material; or aluminum cans or polyethylene bottles, not more than 5 pounds capacity each, with opening not more than 1.25 inches diameter, fitted with securely fastened screw type closures and gaskets of material not deteriorated by contact with the contents, cushioned with not less than 2 inches of absorbent incombustible cushioning material between the inside containers and any part of the wooden box.

(2) Spec. 6A, 6B, or 6C (§§ 178.97, 178.98, or 178.99 of this subchapter). Metal barrels or drums, with inside stainless steel or aluminum drum (or drums) having no opening exceeding 2.5 inches diameter, openings to be securely closed by a screw type gasketed device, with gaskets of material not deteriorated by contact with the contents. The inside drum (or drums) must be cushioned with not less than 2 inches of absorbent incombustible cushioning material; inside drums shall be of not less than 20 gauge metal and shall be tested for leakage before packing in the outside drum.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–94, 41 FR 16072, Apr. 15, 1976]

§ 173.204 Sodium hydrosulfite.

(a) Sodium hydrosulfite must be packed in specification containers as follows:

(1) Specification 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, 178.190 of this subchapter). Wooden boxes with inside glass bottles of capacity not exceeding 5 pounds each, or metal containers.

(2) Spec. 6A, 6B, or 6C (§§ 178.97, 178.98, or 178.99 of this subchapter). Metal barrels or drums.

(3) Spec. 17E, 17H, or 37K (§§ 178.116, 178.118, or 178.130 of this subchapter) Metal drums (single-trip).

(4) Specification 37A or 37B (§§ 178.-131, 178.132 of this subchapter). Metal drums (STC). Not authorized for transportation by air or water.

(5) Spec. 21C (§ 178.224 of this subchapter). Fiber drums with inside metal drums. Authorized net weight not over 225 pounds.

(6) Spec. 21C (§ 178.224 of this subchapter). Fiber drums. Authorized net weight of product not over 250 pounds; drums must have a metal foil (laminated between two sheets of kraft paper with thermoplastic adhesive) moisture and water barrier wound into the sidewall of the drum and located not more than 2 plies from the interior of drum but not to be wound as the first ply; a metal foil moisture and water barrier must also be present in the fiber or wood heading; exterior of drum sidewall must be protected with a water resistant coating; in addition to the tests prescribed by § 178.224–2 (a), (b), and (c) of this subchapter, a drum having been given a 4-foot diagonal bottom chime drop must, after being emptied, withstand complete immersion of the bottom in 6 inches of water for 4 hours without leakage to the interior; drums must not be offered for transportation by carriers by water.

(7) Spec. 22B (§ 178.197 of this subchapter). Plywood drums with inside metal drums.

(8) Specification 56 (§§ 178.251, 178.252 of this subchapter). Portable tank. Authorized only for shipment in a closed transport vehicle. For rail transportation see § 174.534 of this subchapter. Not authorized for transportation by water.

[29 F.R. 18709, Dec 29, 1964, as amended by Order 67, 30 FR 7421, June 5, 1965. Redesignated, 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173–81, 39 FR 17317, May 15, 1974; Amdt. 173–94, 41 FR 16072, Apr. 15, 1976]

§ 173.205 Sodium picramate, wet.

(a) Sodium picramate must be wet with not less than 20 percent of water by weight and packed in specification containers as follows:

(1) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178 170, 178.185, or 178.190 of this subchapter). Wooden boxes with well stoppered glass inside containers of not exceeding 1 quart capacity each, cushioned in the boxes.

[29 FR 18709, Dec. 29, 1964. Redesignated, 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173–81, 39 FR 17317, May 15, 1974; Amdt. 173–94, 41 FR 16072, Apr. 15, 1976]

§ 173.206 Sodium or potassium, metallic; sodium amide; sodium potassium alloys; sodium aluminum hydride; lithium metal; lithium silicon; lithium ferro silicon; lithium hydride; lithium borohydride; lithium aluminum hydride; lithium acetylide-ethylene diamine complex; aluminum hydride; cesium metal; rubidium metal; zirconium hydride, powdered.

(a) Metallic sodium or potassium, sodium amide, sodium potassium alloys, sodium aluminum hydride, lithium metal, lithium silicon, lithium ferro silicon, lithium hydride, lithium borohydride, lithium aluminum hydride, lithium acetylide-ethylene diamine complex, aluminum hydride, cesium metal, rubidium metal, and powdered zirconium hydride must be packaged as follows:

(1) Specification 15A, 15B, 19A, or 19B (§§ 178.168, 178.169, 178.190, 178.191 of this subchapter). Wooden boxes must have inside air-tight metal packagings. Each inside air-tight metal packaging must have a closing device securely fastened by positive means (not friction). For shipments of lithium aluminum hydride, each inside metal packaging must not exceed 1 gallon capacity and must be securely closed, positive means not required. Each inside metal packaging containing lithium aluminum hydride must be cushioned in outside packagings with sufficient incombustible packaging material.

(2) Specification 5, 6A, 6B, or 6C (§§ 178.80, 178.97, 178.98, 178.99 of this subchapter). Metal barrels or drums. Not authorized for lithium aluminum hydride or aluminum hydride.

(3) Spec. 17E, 17H, 37A, or 37B (§§ 178.116, 178.118, 178.131, or 178.132 of this subchapter). Metal drums (single-trip). Authorized only for lithium metal or sodium, metallic which must be fused solid in the container.

(4) Spec. 37A or 37B (§ 178.131 or § 178.132 of this subchapter). Metal drums (single-trip) not exceeding 6 gallons capacity each, with welded side seams and hermetically sealed closure or closure made fast by positive pressure of the lid against a rubber gasket with edge of the lid crimped over the lip of the drum and a protective metal ring fastened around the crimped edge, cushioned on all sides with incombustible packing material, packed in strong outside wooden boxes (see § 173.25). Not more than four inside metal drums shall be packed in one outside wooden box.

(5) Spec. 17C (§ 178.115 of this subchapter), metal drums (single-trip). Not authorized for lithium aluminum hydride.

(6) Spec. 17H or 37A (§ 178.118 or § 178.131 of this subchapter). Metal drums (single-trip), with air-tight metal inside containers which must have closing device securely fastened by positive means (not friction). Inside metal containers must be cushioned on all sides by incombustible packing material. Authorized for lithium metal or lithium hydride only.

(7) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes constructed of at least 375-pound test (Mullen or Cady) solid fiberboard with inside air-tight metal container which must have a closing device securely fastened by positive means (not friction). Each inside metal container must be individually nested into a double-faced corrugated partition of at least 200-pound test (Mullen or Cady) which is in turn surrounded on all sides by a peripheral double-walled corrugated liner of at least 200-pound test (Mullen or Cady). Authorized gross weight not over 90 pounds.

(8) Spec. 21C (§ 178.224 of this subchapter). Fiber drums constructed for 400 pounds net weight, with the material packed not more than 5 pounds net weight each in not to exceed one-half gallon steel cans equipped with friction-top closures. Authorized for lithium ferro silicon only.

(9) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with nonsparking inside metal cans securely closed by use of plastic tape, or other efficient means to provide moisture tight seal. Authorized only for lithium metal in ribbon form not over ½ inch wide and ¹⁄₁₆ inch thick. Lithium metal ribbon must be coated with heavy mineral oil or petrolatum and be wound on motion picture film reels not over 1,600-foot capacity each.

(10) Tubes of stainless steel, or other metals of equivalent strength and nonreactivity, having sealed, welded end caps, and containing not more than 50 grams of metal. Authorized only for metallic sodium, metallic lithium, metallic potassium, and sodium potassium alloy. Each tube must be enclosed within a secondary sealed metallic tube and further enclosed within strong tight outer packaging.

(11) Specification 12 B (§ 178.205 of this subchapter). Fiberboard box. Authorized only for lithium metal in wire form. Fiberboard box must have inside nonsparking metal packaging. Each inside nonsparking metal packaging must be tin coated and sealed by rolled-on lids. The contents of each inside packaging must be coated with heavy mineral oil or petroleum and wound on a 3-inch by 3-inch nonsparking metal spool. The net weight of the contents in each inside packaging must not exceed one-fourth pound.

(12) Any packaging as prescribed in §§ 173.394(b) or (c), 173.395(b) or (c), or 173.396(b) or (c).

(b) Sodium or potassium, metallic, sodium amide, and lithium metal, immersed in neutral oil may also be shipped when packed in specification containers as follows:

(1) Spec. 15A or 15B (§ 178.168 or § 178.169 of this subchapter). Wooden boxes with inside metal drums, spec. 37A or 37B (§ 178.131 or § 178.132 of this subchapter) single-trip, having welded side seams, net weight not over 30 pounds, or with inside glass containers, each enclosed in a tin container.

(2) Spec. 17H (§ 178.118 of this subchapter). Metal drum (single-trip). Authorized only for lithium metal in the form of cups or ingots.

(c) Sodium, metallic, may also be shipped when packed in specification containers as follows:

(1) Spec. 105A300–W (§§ 179.100 and 179.101 of this subchapter). Tank cars, having exterior heater coils fusion welded to tank shell and properly stress-relieved, the material to be in molten condition when loaded into the tank and allowed to solidify before car is offered to the carrier. Outage must be 5 percent or more for sodium at fusion temperature of 208° F.

(2) Spec. 17C, 17H, 37A, or 37B (§§ 178.115, 178.118, 178.131, or § 178.132

of this subchapter). Metal drums (single-trip) authorized for cylindrical blocks at least 2 inches in diameter and not less than 6 inches in length, or rectangular blocks not less than 6 inches in length and not less than 2 inches in any other dimension. Net weight not over 300 pounds for spec. 17C drums; not over 30 pounds for spec. 17H, 37A, or 37B drums.

(3) Specification MC 330 or MC 331 (§ 178.337 of this subchapter). Tank motor vehicles having a minimum design pressure of 150 pounds per square inch and having exterior coils fusion-welded to the tank shell and properly stress-relieved. Tanks must be equipped with safety valves having a start-to-discharge pressure not exceeding 150 pounds per square inch. The material must be in molten condition when loaded and solidified before being moved over a public highway. Outage must be 5 percent or more at a sodium temperature of 208° F.

(4) Specification 51 (§ 178.245 of this subchapter). Portable tank. Each tank must have a minimum design pressure of 150 p.s.i.g. Each tank must be equipped with safety valves having a start-to-discharge pressure of 150 p.s.i.g. If a tank has exterior heating coils these coils must be welded to the tank and must be stress relieved. The material must be in molten condition when loaded and the tank must be held for sufficient time to allow the material to be completely solidified before being offered for transportation. Outage must be five percent or more at sodium fusion temperature of 208° F.

(d) Limited quantities of lithium metal in cartridges or rubidium metal in cartridges is excepted from labeling (except when offered for transportation by air) and specification packaging requirements, when packaged according to the following paragraph. In addition, shipments are not subject to Subpart F of Part 172 of this subchapter, to Part 174 of this subchapter except § 174.24 and to Part 177 of this subchapter except § 177.817.

(e) Lithium metal or rubidium metal in cartridges, containing more than 18 grams but not more than 120 grams of lithium or rubidium, must be packed in specification packagings as follows:

(1) Specification 15A or 15B (§§ 178.168, 178.169 of this subchapter). Wooden boxes, not over 75 pounds gross weight, with air-tight inside copper cartridges. Cartridges having less than 0.022-inch wall thickness must be separated or securely cushioned in the boxes. Each cartridge must have a minimum wall thickness of 0.02-inch.

[29 FR 18709, Dec. 29, 1964, as amended by Order 66, 30 FR 5745, Apr. 23, 1965; Order 67, 30 FR 7421, June 5, 1965; Order 73, 32 FR 3455, Mar. 2, 1967. Redesignated at 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173-81, 39 FR 17317, May 15, 1974; Amdt. 173-90, 39 FR 45240, Dec. 31, 1974; Amdt. 173-94, 41 FR 16072, Apr. 15, 1976; Amdt. 173-94A, 41 FR 40681, Sept. 20, 1976]

§ 173.207 Sulfide of sodium or sulfide of potassium, fused or concentrated, when ground.

(a) Sulfide of sodium or sulfide of potassium, fused or concentrated, when ground, must be packed in specification containers as follows:

(1) Spec. 15A, 15B, 15C, or 16A (§§ 178.168, 178.169, 178.170, or 178.185 of this subchapter). Wooden boxes with inside containers which must be glass bottles enclosed in tightly closed metal cans, or hermetically sealed (soldered) metal cans.

(2) Spec. 6A, 6B, or 6C (§§ 178.97, 178.98, or 178.99 of this subchapter). Metal barrels or drums.

(3) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes, with inside containers which must be hermetically sealed (soldered) metal cans of not over 5 pounds capacity.

(b) When fused or concentrated, but not ground (may be chipped, flaked, or broken), may be shipped in specification containers as follows:

(1) Spec. 15A, 15B, 15C, or 16A (§§ 178.168, 178.169, 178.170, or 178.185 of this subchapter). Wooden boxes with inside bottles of not more than 5 pounds capacity each, or metal cans, with tight covers.

(2) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with inside containers which must be metal cans of not over 5 pounds net weight each or glass bottles of not over 1 pound net weight each. Packages containing glass or earthenware containers must not weigh over 65 pounds gross.

(3) Spec. 17E, 17H, 37A, or 37B (§§ 178.116, 178.118, 178.131, or 178.132 of this subchapter). Metal drums (single-trip).

(4) Spec. 6A, 6B, or 6C (§§ 178.97, 178.98, 178.99 of this subchapter). Metal barrels or drums.

(5) Spec. 21C (§ 178.224 of this subchapter). Fiber drums which must be lined or coated, or otherwise treated so as to prevent the entrance of moisture in quantities sufficient to create a hazardous condition in transportation; maximum loaded capacity 250 pounds net.

(6) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes constructed of at least 275-pound test double-faced fiberboard and provided with a perimeter liner and bottom pad of at least 200-pound test fiberboard. Boxes constructed of at least 350-pound fiberboard having top and bottom pads shall not require perimeter liner. Product must be contained within a tightly closed polyethylene or other equally efficient plastic bag constructed of material having minimum thickness of 0.004 inch. Not more than 25 pounds net weight of product may be packed in one outside box.

(7) Spec. 12A (§ 178.210 of this subchapter). Fiberboard boxes with inside glass bottles not over 5 pounds capacity each. Not more than four bottles having capacity of 5 pounds each shall be packed in one outside box. Shipper must have established that completed package meets test requirements prescribed by § 178.210-10 of this subchapter.

(c) Sulfide of potassium, crystallized, is not subject to Parts 170-189 and 397 of this title.

(d) Sodium sulfide when shipped fused in one solid mass in a metal barrel or drum and sodium sulfide, crystallized, are not subject to Parts 170-189 and 397 of this title.

(e) Sodium sulfide containing 35 percent or more combined water by weight, fused or concentrated but not ground (may be chipped, flaked, or broken), when packed in steel barrels or drums or portable metal tanks that are equipped with moisture-tight closures, or in strong tight fiber drums having a moisture-barrier incorporated in the walls and equipped with moisture-tight closures, is not subject to Parts 170-189 and 397 of this subchapter. Portable tanks filled to gross weight to be shipped must be capable of withstanding a drop from a height of 4 feet onto solid concrete without rupture or serious damage, and must be equipped with lifting devices capable of holding 4 times the gross weight of filled tank.

§ 173.208 Titanium metal powder, wet or dry.

(a) *Titanium metal powder, wet.* Titanium metal powder, wet, with not less than 20 percent water, must be packed in specification containers as follows:

(1) Spec. 15A or 15B (§§ 178.168 or 178.169 of this subchapter). Wooden boxes with inside metal cans not exceeding 1 gallon each, tightly and securely closed, and not more than 12 such inside metal cans in one outside package; or not more than 1 inside metal can of not less than 22-gauge metal and not to exceed 10 gallons capacity, tightly and securely closed.

(b) *Titanium metal powder, dry.* Titanium metal powder, dry, must be packed in specification containers as follows:

(1) Spec. 15A or 15B (§§ 178.168 or 178.169 of this subchapter). Wooden boxes with inside metal containers, tightly and securely closed by push-in covers, held in place by soldering at least four points, or in screw-cap metal cans. Inside containers must not exceed 10 pounds net each. Inside containers must be cushioned by incombustible material such as rock wool or asbestos wool. Gross weight of outside package must not exceed 75 pounds each.

(2) Spec. 17H or 37A (§ 178.118 or § 178.131 of this subchapter). Metal barrels or drums (single-trip) with inside metal drum of not less than 20-gauge metal and with closure secured by positive means. The inside container shall be completely surrounded by not less than 1 inch of incombustible cushioning material.

(3) Spec. 5B (§ 178.82 of this subchapter). Metal barrels or drums not over 15 gallons capacity.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16072, Apr. 15, 1976]

§ 173.209 Tankage, garbage, and tankage fertilizers.

(a) Tankage, garbage, and tankage fertilizers, containing less than 8 percent moisture or having a temperature exceeding 100° F. when loaded must be packed in hermetically sealed metal-lined wooden boxes or air-tight metal containers.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16072, Apr. 15, 1976]

§ 173.210 Tankages, rough ammoniate.

(a) Tankages, rough ammoniate (tankages made from ammoniates such as leather scrap, horns, hoofs, hair, hair waste, felt waste), containing less than 7 percent moisture or having a temperature exceeding 100° F. when loaded, must be packed in hermetically sealed metal-lined wooden boxes or air-tight metal containers.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16072, Apr. 15, 1976]

§ 173.211 Textile waste, wet.

(a) Textile waste, wet, must be packed in hermetically sealed metal-lined wooden boxes or air-tight metal containers.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16072, Apr. 15, 1976]

§ 173.212 Trinitrobenzene and trinitrotoluene, wet.

(a) Trinitrobenzene and trinitrotoluene, wet with not less than 10 percent water, in quantity not exceeding 16 ounces in one outside package, may be shipped as drugs, medicines, or chemicals, when in glass bottles securely stoppered, each bottle inclosed in a strong fiber carton properly cushioned in the outside shipping case and are not subject to any other requirement of Parts 170-189 and 397 of this title.

§ 173.213 Wool waste, wet.

(a) Wool waste, wet, must be packed in hermetically sealed metal-lined wooden boxes or air-tight metal containers.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16072, Apr. 15, 1976]

§ 173.214 Hafnium metal or zirconium metal, wet, minimum 25 percent water by weight, mechanically produced, finer than 270 mesh particle size; hafnium metal or zirconium metal, dry, in an atmosphere of inert gas, mechanically produced, finer than 270 mesh particle size; hafnium metal or zirconium metal, wet, minimum 25 percent water by weight, chemically produced (see Note 1), finer than 20 mesh particle size; hafnium metal or zirconium metal, dry, in an atmosphere of inert gas, chemically produced (see Note 1), finer than 20 mesh particle size.

NOTE 1: Produced by means other than attrition or grinding.

NOTE 2: Any product containing 10 percent or more, particle size specified, shall be subject to this section.

NOTE 3: Any product containing less than 25 percent water by weight is considered dry for purposes of these regulations.

(a) Hafnium metal, wet, mechanically produced finer than 270 mesh particle size or chemically produced finer than 20 mesh particle size with a minimum of 25 percent water by weight (a mixture of water and a suitable anti-freeze agent may be used when freezing temperatures may be encountered during transportation) must be packed in specification containers as follows:

(1) Spec. 15A or 15B (§ 178.168 or 178.169 of this subchapter) wooden boxes or spec. 6A, 6B, or 6C (§ 178.97, 178.98, or 178.99 of this subchapter) metal drums with inside containers of glass or non-carbon polyethylene having net weight of not over 10 pounds each. Inside glass containers must be equipped with positive type clamp-on closures equipped with rubber gaskets. Inside polyethylene containers may have screw-cap closures equipped with gaskets ahead of thread and shall be of material which will not react with or be decomposed when in contact with contents. Screw-cap closures must be secured in place by suitable tape. Each glass or polyethylene container must be surrounded on all sides with not less than 1 inch of incombustible cushioning material and in an amount sufficient to completely absorb the entire liquid contents of the containers. Each inside glass or polyethylene container must be placed in a spec. 2A (§ 178.20 of this subchapter) metal can closed with push-in cover held in place by soldering or crimping at at least four points. Authorized net weight of hafnium in one outside container shall not exceed 40 pounds for wooden boxes and shall not exceed 150 pounds for steel drums.

(2) [Reserved]

(b) Hafnium metal, dry, in an atmosphere of inert gas, mechanically produced finer than 270 mesh particle size or chemically produced finer than 20 mesh particle size must be packed in specification containers as follows:

(1) Spec. 6A, 6B, or 6C (§ 178.97, 178.98, or 178.99 of this subchapter) or spec. 17C, 17H, or 37A (single-trip containers) (§ 178.115, 178.118, or 178.131 of this subchapter). Metal barrels or drums with inside non-carbon polyethylene bottles having positive type clamp-on closures equipped with rubber gaskets, or with screw-cap closures having not less than three continuous threads and equipped with gaskets ahead of threads, not over 5 pounds net weight capacity each. Screwcap closures must be secured in place by suitable tape. Each bottle must be placed in a spec. 2R (§ 178.34 of this subchapter) metal container having a wall thickness of one-fourth inch and be completely surrounded by cushioning material. Spec. 2R containers must be separated from one another by incombustible cushioning material. Authorized net weight of metal in one outside container not over 150 pounds.

(c) Zirconium metal, wet, mechanically produced finer than 270 mesh particle size or chemically produced finer than 20 mesh particle size with a minimum of 25 percent water by weight (a mixture of water and a suitable antifreeze agent may be used when freezing temperatures may be encountered during transportation) must be packed in specification containers as follows:

(1) Spec. 15A or 15B (§ 178.168, or 178,169 of this subchapter) wooden boxes or spec. 6A, 6B, or 6C (§ 178.97, 178.98, or 178.99 of this subchapter) or 17C or 17H (single-trip containers) (§ 178.115 or 178.118 of this subchapter) metal drums with inside containers of glass or non-carbon polyethylene having net weight of not over 10 pounds each. Inside glass containers must be equipped with positive type clamp-on closures equipped with rubber gaskets. Inside polyethylene containers may have screw-cap closures equipped with gaskets ahead of thread and shall be of material which will not react with or be decomposed when in contact with contents. Screw-cap closures must be secured in place by suitable tape. Each glass or polyethylene container must be surrounded on all sides with not less than 1 inch of incombustible cushioning material and in an amount sufficient to completely absorb the entire liquid contents of the containers. Each inside glass or polyethylene container must be placed in a spec. 2A (§ 178.20 of this subchapter) metal can closed with push-in cover held in place by soldering or crimping at at least four points. Authorized net weight of zirconium in one outside container shall not exceed 40 pounds in wooden boxes and 150 pounds in steel drums.

(2) [Reserved]

(3) Spec. 37P (§ 178.133 of this subchapter). Steel drums with polyethylene liner of one-piece molded construction (nonreusable container) not over 5 gallons capacity each. Drums exceeding 1 gallon capacity must be constructed of at least 24-gauge metal.

(4) Specification 37M (§ 178.134 of this subchapter). Cylindrical steel overpack with inside specification 2S (§ 178.-35 of this subchapter) polyethylene container. Each overpack must be constructed of at least 24-gage steel. Each packaging may not exceed a capacity of 5 gallons. Net weight of contents may not exceed 50 pounds of dry material.

(d) Zirconium metal, dry, in an atmosphere of inert gas, mechanically produced finer than 270 mesh particle size or chemically produced finer than 20 mesh particle size must be packed in specification containers as follows:

(1) Spec. 6A, 6B, or 6C (§ 178.97, 178.98, or 178.99 of this subchapter) or spec. 17C, 17H, or 37A (single-trip containers) (§ 178.115, 178.118, or 178.131 of this subchapter). Metal barrels or drums with inside non-carbon polyethylene bottles having positive type clamp-on closures equipped with rubber gaskets, or with screw-cap closures having not less than three continuous threads and equipped with gaskets ahead of threads, not over 5 pounds net weight capacity each. Screw-cap closures must be secured in place by suitable tape. Each bottle must be placed in a spec. 2R (§ 178.34 of this subchapter) metal container having a wall thickness of one-fourth inch and be completely surrounded by cushioning material. Spec. 2R containers must be separated from one another by incombustible cushioning materials. Authorized net weight of metal in one outside container not over 150 pounds.

(e) Mechanically produced hafnium metal, coarser than 270 mesh particle size and chemically produced coarser

than 20 mesh particle size in strong tight containers are not subject to Parts 71-79 and 197 of this subchapter.

(f) Mechanically produced zirconium metal, coarser than 270 mesh particle size and chemically produced coarser than 20 mesh particle size in strong tight containers are not subject to Parts 170-189 and 397 of this title. (See § 173.220, zirconium scrap.)

[29 F.R. 18709, Dec. 29, 1964, as amended by Order 66, 30 FR 5745, Apr. 23, 1965. Redesignated, 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173-81, 39 FR 17318, May 15, 1974; Amdt. 173-94, 41 FR 16072, Apr. 15, 1976]

§ 173.216 Zirconium picramate, wet.

(a) Zirconium picramate must be wet with not less than 20 percent of water by weight and packed in specification containers as follows:

(1) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with well stoppered glass inside containers of not exceeding 1 quart capacity each, cushioned in the boxes.

[29 FR 18709, Dec. 29, 1964. Redesignated, 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173-81, 39 FR 17318, May 15, 1974; Amdt. 173-94, 41 FR 16072, Apr. 15, 1976]

§ 173.217 Calcium hydrochlorite mixture, dry; lithium hypochlorite mixture, dry; mono-(trichloro) tetra-(monopotassium dichloro)-penta-s-triazinetrione, dry; potassium dichloro-s-triazinetrione, dry; sodium dichloro-s-triazinetrione, dry; trichloro-s-triazinetrione, dry.

(a) Calcium hypochlorite mixture, dry, lithium hypochlorite mixture, dry, mono-(trichloro) tetra-(monopotassium dichloro)-penta-s-triazinetrione, dry, potassium dichloro-s-triazinetrione, dry, sodium dichloro-s-triazinetrione, dry, and trichloro-s-triazinetrione, dry, each containing more than 39 percent available chlorine must be packaged as follows:

(1) Spec. 6A, 6B, or 6C (§§ 178.97, 178.98, or 178.99 of this subchapter). Metal barrels or drums.

(2) Spec. 17E, 17H, 37A, or 37B (§§ 178.116, 178.118, 178.131, or § 178.132 of this subchapter). Metal drums (single-trip).

(3) Spec. 21C (§ 178.224 of this subchapter). Fiber drums with inner ply a laminated sheet of paper and aluminum foil, internally coated with not less than a 0.002 inch thickness of polyethylene. Cover of drum shall be gasketed. Authorized net weight not over 400 pounds.

(4) Specification 21C (§ 178.224 of this subchapter). Fiber drum with commodity packed in securely closed polyethylene bag constructed of polyethylene film not less than 0.004-inch thickness. Not authorized for calcium hypochlorite mixtures and lithium hypochlorite compounds, dry.

(5) Specification 21C (§ 178.224 of this subchapter). Fiber drum must be made with integral inner body ply having 0.010-inch minimum aluminum facing and bottom interior with 0.001-inch minimum aluminum facing. Cover of weight not over 400 pounds. Authorized only for calcium hypochlorite mixtures, drum must be gasketed. Authorized net dry.

(6) Specification 56 (§§ 178.251, 178.252 of this subchapter). Metal portable tank. Authorized only for mono-(trichloro) tetra-(monopotassium dichloro)-penta-s-triazinetrione, dry, potassium dichloro-s-triazinetrione, dry, and sodium dichloro-s-triazinetrione, dry. For rail transportation, see § 174.534 (b) of this subchapter.

(b) Limited quantities of these materials in strong outside wooden or fiberboard packages with inside packagings of glass not over five pounds capacity each, or with inside metal packagings or plastic bottles not over ten pounds capacity each, are excepted from labeling and (except labeling is required for transportation by air) and the specification packaging requirements of this subchapter. In addition, shipments are not subject to Subpart F of Part 172 of this subchapter, to Part 174 of this subchapter except § 174.24 and to Part 177 of this subchapter except § 177.817.

[29 FR 18709, Dec. 29, 1964, as amended by Order 67, 30 FR 7421, June 5, 1965. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-11, 34 FR 12590, Aug. 1, 1969; Amdt. 173-73, 38 FR 20085, July 27, 1973; Amdt. 173-79, 39 FR 12751, Apr. 8, 1974; Amdt. 173-94, 41 FR 16072, Apr. 15, 1976; Amdt. 173-94A, 41 FR 40681, Sept. 20, 1976]

§ 173.218 Isopropyl percarbonate, unstabilized.

(a) Isopropyl percarbonate, unstabilized, must be packed in specification containers as follows:

(1) Spec. 15A, 15B, 15C, 16A, or 19A (§ 178.168, § 178.169, § 178.170, § 178.185, or § 178.190 of this subchapter). Wooden boxes, or other equally efficient container when approved by the Bureau of Explosives, with glass, metal, or earthenware inside containers of not over 2 gallons capacity each which must be maintained at a temperature below 0° F. Shipments are authorized for transportation by private or contract carrier by motor vehicle only.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16073, Apr. 15, 1976]

§ 173.219 Potassium perchlorate.

(a) Potassium perchlorate must be packed as follows:

(1) As prescribed in § 173.154 (a) (1) to (11).

§ 173.220 Magnesium or zirconium scrap consisting of borings, clippings, shavings, sheets, turnings, or scalpings, and magnesium metallic (other than scrap), powdered, pellets, turnings, or ribbon.

(a) Magnesium or zirconium scrap consisting of borings, shavings, or turnings, must be packed in closed metal barrels or drums, wooden barrels, metal pails, fiber drums, or four-ply paper bags. Paper bags are not authorized for less-than-carload or less-than-truckload shipments.

(1) Magnesium or zirconium scrap consisting of clippings, scalpings, or scrap sheets may be shipped in bulk in carload or truckload quantities. Cars must be tight box cars or tightly closed steel covered gondola cars and trucks or trailers must have closed or completely covered bodies.

(2) Limited quantities of magnesium or zirconium scrap consisting of clippings, scalpings, or scrap sheets in closed metal drums, wooden barrels, or wooden boxes, unless otherwise provided, is excepted from labeling (except when offered for transportation by air) and specification packaging requirements of this subchapter. In addition, shipments by rail are not subject to Part 174 of this subchapter except § 174.24 and shipments by highway are not subject to Part 177 of this subchapter, except § 177.817.

(b) Magnesium metallic (other than scrap), powdered, pellets, turnings, or ribbon must be packed in containers as prescribed in § 173.154.

(1) Limited quantities of magnesium metallic (other than scrap), pellets, turnings, or ribbon in fiberboard boxes with inside glass bottles not over 1 pound capacity each, with not more than 25 pounds net weight of product in each outside fiberboard box, in closed metal drums, metal pails, fiber drums, or wooden boxes with inside packagings are, unless otherwise provided, excepted from labeling (except labeling is required for transportation by air) and the specification packaging requirements of this subchapter. In addition, shipments are not subject to Subpart F of Part 172 of this subchapter, to part 174 of this subchapter except § 174.24 and to Part 177 of this subchapter except § 177.817.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, as amended by Amdt. 173-6, 34 FR 7161, May 1, 1969 Amdt. 173-94, 41 FR 16073, Apr. 15, 1976; Amdt. 173-94A, 41 FR 40681, Sept. 20, 1976]

§ 173.221 Liquid organic peroxides, n.o.s., and liquid organic peroxide solutions, n.o.s.

(a) Liquid organic peroxides, n.o.s., and liquid organic peroxide solutions, n.o.s. must be packed in packagings which may be equipped with venting devices wherever necessary to prevent excessive pressure buildup, as follows:

(1) Spec. 1A or 1D (§§ 178.1 or 178.4 of this subchapter). Carboys, glass, boxed, capacity not over 5 gallons for spec. 1A (§ 178.1 of this subchapter), and 6.5 gallons for spec. 1D (§ 178.4 of this subchapter).

(2) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with inside containers which must be glass, earthenware, or metal, not over 1 gallon each, cushioned with incombustible packing material in sufficient quantity to absorb the contents of the inner container. Metal inside containers authorized only for materials which will not react dangerously with or be decomposed by contact with metal.

(3) Specification 12B (§ 178.205 of this subchapter). Fiberboard box with Specification 2E (§ 178.24a of this subchapter) inside polyethylene bottles, or with glass or metal inside receptacles, not over 1

gallon each. Not more than six 1-gallon polyethylene bottles may be packed in one fiberboard box. Not more than one 1-gallon glass or metal inside receptacle, which must be cushioned with noncombustible packing material in sufficient quantity to absorb the contents of the inner receptacle, may be packed in one fiberboard box. Metal and polyethylene inside receptacles authorized only for material which will not react dangerously with or be decomposed by contact with metal or polyethylene.

(4) Spec. 42B (§ 178.107 of this subchapter). Aluminum drums not over 15 gallons capacity. Authorized only for peroxides which will not react dangerously with the aluminum or be decomposed by contact with it.

(5) Spec. 17C or 17E (§§ 178.115 or 178.116 of this subchapter). Metal drums (single-trip) not over 15 gallons capacity. Authorized only for material which will not react dangerously with the drum metal, or be decomposed by contact with it.

(6) Spec. 22C (§ 178.198 of this subchapter). Plywood drum as prescribed by § 178.198–2(a) of this subchapter, with inside spec. 2T (§ 178.21 of this subchapter) polyethylene container. Authorized only for material which will not react dangerously with or cause decomposition of the polyethylene.

(7) Spec. 6D or 37M (nonreusable container) (§ 178.102 or 178.134 of this subchapter). Cylindrical steel overpacks with inside spec. 2S (§ 178.35 of this subchapter) polyethylene container. Authorized only for material which will not react dangerously with or cause decomposition of the polyethylene.

(8) Spec. 37P (§ 178.133 of this subchapter). Steel drums, not over 5-gallons capacity, with one-piece seamless molded polyethylene liner (nonreusable container). Drums exceeding 1-gallon capacity must be constructed of at least 24-gauge metal. Authorized only for materials that will not react with polyethylene and result in container failure.

(9) Spec. 12P (§ 178.211 of this subchapter). Fiberboard boxes with inside spec. 2U (§ 178.24 of this subchapter) polyethylene containers not over 5 gallons capacity each. Wire staples are not authorized for assembly or closure of boxes, except when polyethylene container is completely enclosed in inside boxes free of wire staples or other projections that could cause failures.

(10) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with inside polyethylene bottles, not over 5-gallons capacity each, as specified by § 178.205–34 of this subchapter. Not more than one bottle shall be packed in one outside box. Authorized only for material which will not react dangerously with or cause decomposition of polyethylene.

(11) Specification 16A (§ 178.185 of this subchapter). Wooden boxes with inside Specification 2U, 2S, or 2SL (§§ 178.24, 178.35, 178.35a of this subchapter) polyethylene containers, not over 5-gallon capacity each. Specification 2U container must have a minimum wall thickness of 0.015 inch. The polyethylene container must be separated from the wooden box by a complete corrugated fiberboard liner, top pad, and bottom pad. Authorized only for materials which will not react dangerously with or be decomposed by contact with polyethylene.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, as amended by Amdt. 173–11, 34 FR 12591, Aug. 1, 1969; Amdt. 173–94, 41 FR 16073, Apr. 15, 1976]

§ 173.222 Acetyl peroxide and acetyl benzoyl peroxide, solution.

(a) Acetyl peroxide must be shipped in solution in a non-volatile solvent and must contain not more than 25 percent by weight of the peroxide. Acetyl benzoyl peroxide must be shipped in solution in a non-volatile solvent and must contain not more than 40 percent by weight of the peroxide. They must be packed in specification containers as follows:

(1) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with inside containers which must be glass or earthenware, not over 1 gallon each, cushioned with incombustible packing material in sufficient quantity to absorb the contents of the inner container.

(2) Spec. 1A or 1D (§§ 178.1 or 178.4 of this subchapter). Carboys, glass, boxed, capacity not over 5 gallons for spec. 1A (§ 178.1 of this subchapter), and 6.5 gallons for spec. 1D (§ 178.4 of this subchapter).

(3) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with inside containers which must be glass or earthenware, not over 1 gallon each, cushioned with incombustible packing material in sufficient quantity to absorb the contents of the inner container. Not more than one 1-gallon inside container shall be packed in one outside fiberboard box.

(4) Spec. 12P (§ 178.211 of this subchapter). Fiberboard boxes with inside spec. 2U (§ 178.24 of this subchapter) polyethylene containers not over 5 gallons capacity each. Wire staples are not authorized for assembly or closure of boxes, except when polyethylene container is completely enclosed in inside boxes free of wire staples or other projections that could cause failures.

(5) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with inside polyethylene bottles, not over 5 gallons capacity each, as specified by § 178.205–34 of this subchapter. Not more than one bottle shall be packed in one outside box. Authorized only for material which will not react dangerously with or cause decomposition of polyethylene.

[29 F.R. 18709, Dec. 29, 1964, as amended by Order 66, 30 FR 5745, Apr. 23, 1965. Redesignated, 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–94, 41 FR 16073, Apr. 15, 1976]

§ 173.223 Peracetic acid.

(a) Peracetic acid must be shipped in solution not exceeding 40 percent strength and must be packed in specification containers as follows:

(1) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with inside containers which must be glass or earthenware, not over one gallon capacity each, cushioned with sterile absorbent cotton or other cushioning material which will not react with the contents to generate heat. Cushioning material must be in sufficient quantity to completely absorb the contents of the inner container.

(2) Spec. 12B (§ 178.205 of this chapter). Fiberboard boxes with inside containers which must be glass or earthenware, not over one quart capacity each, cushioned with sterile absorbent cotton or other cushioning material which will not react with the contents to generate heat. Cushioning material must be in sufficient quantity to completely absorb the contents of the inner container.

(3) Spec. 1D (§ 178.4 of this subchapter). Boxed glass carboy.

(4) Spec. 22C (§ 178.198 of this subchapter). Plywood drum as prescribed by § 178.198–2(a) of this subchapter, with inside spec. 2T (§ 178.21 of this subchapter) polyethylene container.

(5) Spec. 37M (§ 178.134 of this subchapter). Cylindrical steel overpack nonreusable container) with inside spec. 2SL (§ 178.35a of this subchapter) polyethylene container not over 30 gallons capacity. Polyethylene container must have a vented closure capable of preventing leakage of liquid contents.

(b) Limited quantities of peracetic acid solutions not exceeding 40 percent strength packed in strong wooden or fiberboard boxes, with not more than one inside glass packaging not exceeding 1 pint capacity, cushioned with sterile absorbent cotton or other cushioning material which will not react with the contents to generate heat, and with such cushioning material in sufficient quantity to completely absorb the contents of the bottle, are excepted from labeling (except labeling is required for transportation by air) and the specification packaging requirements of this subchapter. In addition, shipments are not subject to Subpart F of Part 172 of this subchapter to Part 174 of this subchapter except § 174.24 and to Part 177 of this subchapter, except § 177.817."

[29 FR 18709, Dec. 29, 1964. Redesignated, at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–94, 41 FR 16073, Apr. 15, 1976; Amdt. 173–94A, 41 FR 40681, Sept. 20, 1976]

§ 173.224 Cumene hydroperoxide, dicumyl peroxide, diisopropylbenzene hydroperoxide, paramenthane hydroperoxide, and tertiary butylisopropyl benzene hydroperoxide.

(a) Cumene hydroperoxide of strength not exceeding 96 percent in a non-volatile solvent, dicumyl peroxide of strength not exceeding 50 percent in a non-volatile solvent, diisopropylbenzene hydroperoxide of strength not exceeding 60 percent in a non-volatile solvent, paramenthane hydroperoxide of strength not exceeding 60 percent in a non-volatile solvent, and tertiary butylisopropyl benzene hydroperoxide of strength not exceeding 60 percent must be packed in specification containers as follows:

(1) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or

178.190 of this subchapter). Wooden boxes with inside containers which must be glass or earthenware, not over 1 gallon each, cushioned with incombustible packing material in sufficient quantity to absorb the contents of the inner container.

(2) Spec. 17E (§ 178.116 of this subchapter). Metal drums (single trip), with interiors so treated that they will be resistant to the contents.

(3) Spec. 103,[1] 103–W, 103A,[1] 103A–W, 111A60–F–1, 111A60–W–1, 111A100–F–2 or 111A100–W–2 (§§ 179.200, 179.201 of this subchapter). Tank cars. Authorized for 90 percent or less cumene hydroperoxide in a nonvolatile solvent, paramenthane hydroperoxide of strength not exceeding 60 percent in a nonvolatile solvent and diisopropylbenzene hydroperoxide of strength not exceeding 60 percent in a nonvolatile solvent only. Specs. 103,[1] 103–W, 111A60–F–1 and 111A60–W–1 tank cars must have bottom outlets effectively sealed from the inside.

(4) Specification MC 310, MC 311, or MC 312 (§ 178.343 of this subchapter). Tank motor vehicles. Authorized for paramenthane hydroperoxide of strength not exceeding 60 percent in a nonvolatile solvent only.

[29 FR 18709, Dec. 29, 1964, as amended by Order 73, 32 FR 3455, Mar. 2, 1967. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–94, 41 FR 16073, Apr. 15, 1976]

§ 173.225 Phosphorus trisulfide; phosphorus sesquisulfide; phosphorus heptasulfide; phosphorus pentasulfide.

(a) Phosphorus trisulfide, phosphorus sesquisulfide, phosphorus pentasulfide and phosphorus heptasulfide must be packaged as follows:

(1) Spec. 15A or 15B (§§ 178.168 or 178.169 of this subchapter). Wooden boxes with metal inside containers hermetically sealed (soldered) or watertight metal cans with screw-top closures. Other closures if approved by the Bureau of Explosives will be permitted.

(2) Spec. 6A, 6B, or 6C (§§ 178.97, 178.98, or 178.99 of this subchapter). Metal barrels or drums, not over 30 gallons capacity each.

(3) Spec. 37A or 37B (§ 178.131 or § 178.132 of this subchapter). Metal drums (single-trip). Gross weight not over 425 pounds.

(b) Phosphorus pentasulfide must be packed as follows:

(1) In any packaging prescribed in § 173.154 which will not permit water to come in contact with the lading.

(2) Specification 53[1] or 56 (§§ 178.251, 178.252 of this subchapter). Metal portable tank.

NOTE 1: Non-DOT specification metal portable tanks or bins similar to specification 53 or 56 may be used until April 30, 1974.

(3) Metal drum not over 15 gallons capacity. Authorized only for phosphorus pentasulfide fused into a solid mass before transportation.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–68, 38 FR 1507, Jan. 15, 1973; 173–68, 38 FR 16875, June 27, 1973; Amdt. 173–84, 39 FR 33532, Sept. 18, 1974; Amdt. 173–94, 41 FR 16073, Apr. 15, 1976; Amdt. 173–94A, 41 FR 40681, Sept. 20, 1976]

§ 173.226 Thorium metal, powdered.

NOTE: Thorium metal, a low specific activity radioactive material, is also subject to the applicable provisions of §§ 173.389 through 173.399.

(a) Thorium metal, powdered, must be packed in specification containers as follows:

(1) Spec. 15A or 15B (§§ 178.168 or 178.169 of this subchapter). Wooden boxes with inside metal containers, tightly and securely closed by push-in covers held in place by soldering at least at four points, or in screw-cap type metal cans. Inside containers must not exceed 10 pounds net each. Gross weight of outside packages must not exceed 75 pounds each.

(b) Limited quantities of thorium metal powder packed in tightly and securely closed metal cans, cushioned with incombustible material in strong outside wooden or fiberboard boxes, and not exceeding 4 ounces net weight in one outside packaging, is excepted from labeling (except labeling is required for transportation by air) and the specification packaging requirements of this subchapter. In addition, shipments are not subject to Subpart F of Part 172 of this subchapter, to Part 174 of this subchapter except § 174.24 and to Part 177 of this subchapter except § 177.817.

[29 FR 18709, Dec. 29, 1964. Redesignated, at 32 FR 5606, Apr. 5, 1967 and amended at 39 FR 45240, Dec. 31, 1974; Amdt. 173–94, 41 FR 16073, Apr. 15, 1976; Amdt. 173–94A, 41 FR 40681, Sept. 20, 1976]

§ 173.227 Urea peroxide.

(a) Urea peroxide must be packed in specification containers as follows:

(1) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with inside containers which must be rubber or plastic containers not exceeding 4 ounces each. Gross weight not over 65 pounds.

(2) Spec. 21C (§ 178.224 of this subchapter). Fiber drums completely coated on the inside with a suitable wax, synthetic coating, or metal foil suitable to the lading; or fiber drums having a metal foil (laminated between two sheets of kraft paper with thermoplastic adhesive) moisture and water barrier wound into the sidewall of the drum and located not more than 2 plies from the interior of drum but not to be wound as the first ply; a metal foil moisture and water barrier must also be present in the fiber or wood heading; exterior of drum sidewall must be protected with a water resistant coating; in addition to the tests prescribed by § 178.224–2 (a), (b), and (c) of this subchapter, a drum having been given a 4-foot diagonal bottom chime drop must, after being emptied, withstand complete immersion of the bottom in 6 inches of water for 4 hours without leakage to the interior. Authorized net weight not over 225 pounds.

(3) Spec. 22A (§ 178.196 of this subchapter). Plywood drums with paper bags, spec. 2J (§ 178.28 of this subchapter) coated with suitable wax on the inner surface.

[29 FR 18709, Dec. 29, 1964. Redesignated, at 32 FR 5606, Apr 5, 1967, and amended by Amdt. 173–94, 41 FR 16073, Apr. 15, 1976]

§ 173.228 Zinc ammonium nitrite.

(a) Zinc ammonium nitrite must be packed in specification containers as follows:

(1) Spec. 6A, 6B, or 6C (§§ 178.97, 178.98, or 178.99 of this subchapter). Metal barrels or drums.

(2) Spec. 17E, 17H, 37A, or 37B (§§ 178.116, 178.118, 178.131, or § 178.132 of this subchapter). Metal drums (single-trip). Gross weight not over 300 pounds.

§ 173.229 Chlorate and borate mixtures or chlorate and magnesium chloride mixtures.

(a) Chlorate and borate mixtures or chlorate and magnesium chloride mixtures containing more than 50 percent chlorate and no other hazardous additives must be packed as follows:

(1) As prescribed in § 173.163.

(b) Limited quantities of chlorate and borate mixtures or chlorate and magnesium chloride mixtures containing no other hazardous additives and containing less than 50 percent chlorate are excepted from labeling (except labeling is required for transportation by air) and the specification packaging requirements of this subchapter. In addition, shipments are not subject to Subpart F of Part 172 of this subchapter, to Part 174 of this subchapter except § 174.24 and to Part 177 of this subchapter except § 177.817.

(1) Tight metal or fiber drums.

(2) Wooden boxes with tight inside metal containers.

(3) Multi-wall paper bags, net weight not over 50 pounds, moisture proof and sift proof, and having a strength capable of withstanding four 4-foot drops onto solid concrete.

(4) Strong fiberboard boxes with inside fiber containers having metal tops and bottoms, net weight not over 4 pounds each; gross weight of completed package not over 65 pounds.

(5) Strong fiberboard boxes with not more than 4 inside paper bags spec. 2D (§ 178.23 of this subchapter), having net weight not over 10 pounds each.

(c) Chlorate and borate mixtures or chlorate and magnesium chloride mixtures containing 28 percent or less chlorate and no other hazardous additives, are not subject to the regulations in Parts 170–189 and 397 of this title.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by

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[1] Use of existing tank cars authorized, but new construction not authorized.

Amdt. 173-94, 41 FR 16073, Apr. 15, 1976; Amdt. 173-94A, 41 FR 40681, Sept. 20, 1976]

§ 173.230 Sodium, metallic, dispersion in organic solvent.

(a) Sodium, metallic, dispersion in organic solvent must be packed in specification containers as follows.

(1) Spec. 15A (§ 178.168 of this subchapter). Wooden boxes with inside containers which must be metal cans not exceeding one quart capacity, and each such can must be packed in another metal can and cushioned on all sides with at least one inch of incombustible dry nonhygroscopic material which is nonreactive with sodium at temperatures encountered during normal transportation. Both the inner and outer metal cans shall be equipped with an airtight closing device secured by positive means (not friction). Gross weight of completed package must not exceed 100 pounds.

(2) Spec. 17H (§ 178.118 of this subchapter). Metal drum (single-trip) of not over 55 gallons capacity, with material contained in an inside spec. 17E (§ 178.116 of this subchapter) metal drum (single-trip) of not over 30 gallons capacity. The inside drum shall be snugly packed in the outside drum by completely and evenly surrounding it with incombustible dry nonhygroscopic material which is nonreactive with sodium at temperatures encountered during normal transportation.

(3) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes constructed of at least 375-pound test (Mullen or Cady) solid fiberboard with inside metal cans not exceeding one quart capacity. Each such can must be packed in another metal can and cushioned on all sides with at least one inch of incombustible dry nonhygroscopic material which is nonreactive with sodium at temperatures encountered in normal transportation. Both the inner and outer metal cans shall be equipped with an airtight closing device secured by positive means (not friction) and must be individually nested into a double-faced corrugated partition of at least 200-pound test (Mullen or Cady) which is in turn surrounded on all sides by a peripheral double-walled corrugated liner of at least 200-pound test (Mullen or Cady). Authorized gross weight not over 90 pounds.

(4) Spec. 15A (§ 178.168 of this subchapter). Wooden boxes with inside polyethylene bottles not exceeding 1-quart capacity each cushioned on all sides with at least 1-inch soda ash and then placed within an airtight metal can closed by a positive means. Metal cans shall be cushioned so as to prevent movement within the outer box. Solvents used must be compatible with the inner polyethylene bottle. Gross weight of the completed package must not exceed 100 pounds.

[29 FR 18709, Dec. 29, 1964, as amended by Order 66, 30 FR 5745, Apr. 23, 1965. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16073, Apr. 15, 1976]

§ 173.231 Calcium, metallic, crystalline.

(a) Calcium, metallic, crystalline must be packed in specification containers as follows:

(1) Spec. 15A or 15B (§§ 178.168 or 178.169 of this subchapter). Wooden boxes with airtight inside metal containers not over 1 gallon capacity each.

(2) Spec. 6A, 6B, or 6C (§§ 178.97, 178.98, or 178.99 of this subchapter). Metal barrels or drums, gross weight not over 350 pounds.

(3) Spec. 17C or 17H (§ 178.115 or § 178.118 of this subchapter). Metal drums (single-trip), gross weight not over 350 pounds.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32, FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16073, Apr. 15, 1976]

§ 173.232 Aluminum, metallic powder.

(a) Polished aluminum powder which has been treated with oil or waxes for printing or paint purposes is not subject to the requirements of this subchapter.

(b) Limited quantities of metallic aluminum powder, other than the powder described in paragraph (a) of this section in earthenware, glass, metal, or plastic inside packagings of not more than 5 pounds capacity each, in strong outside packaging of not over 25 pounds net weight, is excepted from labeling (except that labeling is required for transportation by air) and the specification packaging requirements of this subchapter. In addition, shipments are not subject to Subpart F of Part 172 of this subchapter, to Part 174 of this subchapter except § 174.24 and to Part 177 of this subchapter, except § 177.817.

(c) Metallic aluminum powder, other than the powder described in paragraph (a) of this section, when not packed in accordance with paragraph (b) of this section, must be packaged as follows:

(1) Steel barrel or drum, not over 650 net weight.

(2) Wooden box, not over 125 pounds gross weight.

(3) Moisture and sift-proof bag, not over 100 net weight.

(4) Fiber drum, not over 650 net weight.

(5) Fiberboard box, not over 650 net weight.

(6) Portable tanks, not over 5,000 pounds gross weight.

(7) In bulk in rail cars and cargo tanks.

[Amdt. 173-94, 41 FR 16073, Apr. 15, 1976, as amended by Amdt. 173-94A, 41 FR 40682, Sept. 20, 1976]

§ 173.233 Nickel catalyst, finely divided, activated or spent.

(a) Nickel catalyst, finely divided, activated or spent must be wet with not less than 40 percent by weight of water or other equally suitable liquid and must be packed in specification containers as follows:

(1) Spec. 15A or 15B (§§ 178.168 or 178.169 of this subchapter). Wooden boxes with airtight metal inside containers which must have closing device fastened by positive means (not friction); or airtight glass inside containers of not over 1 quart capacity each, securely cushioned in asbestos wool, vermiculite, or equally efficient incombustible cushioning material.

(2) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with airtight metal inside containers which must have closing device fastened by positive means (not friction); or airtight glass inside containers of not over 1 quart capacity each, securely cushioned in asbestos wool, vermiculite, or equally efficient incombustible cushioning material.

(3) Spec. 5, 6A, 6B, or 6C (§§ 178.80, 178.97, 178.98, or 178.99 of this subchapter). Metal barrels or drums not over 55 gallons capacity each.

(4) Spec. 17H, 37A, or 37B (§ 178.118, § 178.131, or § 178.132 of this subchapter). Metal drums (single-trip).

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16073, Apr. 15, 1976]

§ 173.234 Sodium nitrite and sodium nitrite mixtures.

(a) Sodium nitrite and sodium nitrite mixtures must be packed in specification containers as follows:

(1) In containers as prescribed in § 173.154.

(2) Spec. 44C (§ 178.237 of this subchapter). Multiwall paper bags constructed of at least 5 thicknesses of heavy duty shipping sack Kraft paper, or equivalent, with a minimum total basis weight of 310 pounds including a polyethylene or other suitable pliable plastic material inner sheet having a minimum basis weight of 10 pounds. All closures must be of such design as to provide a moisture-resistant package when closed for shipment. Net weight not over 100 pounds each. Authorized for carload or truckload shipments only.

(3) Spec. 21C (§ 178.224 of this subchapter). Fiber drums: Authorized net weight not over 400 pounds.

(4) Spec. 37A (§ 178.131 of this subchapter). Metal drums constructed of steel having minimum thickness of 24 gauge. Bolted or lever-lock closure rings authorized provided drums withstand test prescribed by § 178.131-11 of this subchapter. Authorized gross weight not over 425 pounds.

(5) Sodium nitrite is authorized for shipment in tight sift-proof covered hopper cars. Cars must be thoroughly cleaned before loading.

(6) Tank cars which must be thoroughly cleaned before loading.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16073, Apr. 15, 1976]

§ 173.235 Ammonium bichromate (ammonium dichromate).

(a) Ammonium bichromate (ammonium dichromate) must be packed in specification containers as follows:

(1) In containers as prescribed in § 173.154.

(2) Spec. 21C (§ 178.224 of this subchapter). Fiber drums. Authorized net **weight not over 400 pounds.**

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16073, Apr. 15, 1976]

§ 173.236 Decaborane.

(a) Decaborane must be packed in specification containers as follows:

(1) Spec. 6A, 6B or 6C (§§ 178.97, 178.98 or § 178.99 of this subchapter). Metal barrels or drums.

(2) Spec. 17C, 17E, 17H, 37A, or 37B (§§ 178.115, 178.116, 178.118, 178.131, or § 178.132 of this subchapter). Metal drums (single-trip).

(3) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with inside containers which must be metal cans; **sliding-lid wooden boxes; fiber cans or** boxes, spec. 2G (§ 178.26 of this subchapter), not over 5 pounds capacity each; or glass bottles not over 1 pound capacity each. Packages containing glass containers must not weigh over 65 pounds gross.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16073, Apr. 15, 1976]

§ 173.237 Chlorine dioxide hydrate, frozen; chloric acid.

(a) Chlorine dioxide hydrate, frozen, and chloric acid must be packed in specification packaging as follows:

(1) Specification 12B (§ 178.205 of this subchapter). Fiberboard boxes, with inside packages of polyethylene or other suitable material. Fiberboard boxes must be reinforced and insulated and sufficient dry ice must be used to maintain the hydrate or acid in a frozen state during transportation. Shipments are authorized for transportation by private or contract carrier by motor vehicle only.

(2) Containers and means of refrigeration providing equal efficiency, when approved by the Bureau of Explosives, are authorized for shipments by private carrier by motor vehicle.

[Amdt. 173-94, 41 FR 16073, Apr. 15, 1976]

§ 173.238 Aircraft rocket engines (commercial) and/or aircraft rocket engine igniters (commercial).

(a) Aircraft rocket engines (commercial) and their igniters may be offered for transportation when of a type approved by the Bureau of Explosives to be so described and classed, and when packaged as follows:

(1) Spec. 15A, 15B, 15E or 16A (§ 178.168, 178.169, 178.172 or 178.185 of this subchapter). Wooden boxes. Igniters **must be packaged in sealed metal containers approved by the Bureau of Explosives and packed in wooden boxes as specified above when shipped separately** from the Aircraft rocket engines.

(2) Aircraft rocket engines (commercial), when approved by the Bureau of Explosives, may be packed in the same outside shipping container with their separately packaged igniters. Igniters must be packed in separate sealed metal containers in strong inside containers.

(3) Aircraft rocket engines (commercial) and/or their igniters, packed in any other manner than specified in subparagraphs (1) and (2) of this paragraph, must be in containers of a type approved by the Bureau of Explosives.

NOTE 1: For purposes of § 173.238, aircraft rocket engines (commercial) are standby aircraft propulsion engines which are for civil aircraft installation only, comprising a metal case containing a solid composite fuel other than one classified as an explosive and containing no explosive material or element.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16074, Apr. 15, 1976]

§ 173.239 Barium azide—50 percent or more water wet.

(a) Barium azide—50 percent or more water wet, must be packed in specification containers as follows:

(1) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with inside glass bottles not over one pound capacity each. Bottles shall have rubber stoppers wire tied for securement. If shipment is to take place at a time freezing weather is to be anticipated, a suitable antifreeze solution must be used to prevent freezing.

[29 FR 18709, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16074, Apr. 15, 1976]

§ 173.239a Ammonium perchlorate.

(a) Ammonium perchlorate must be packed in specification containers as follows:

(1) In containers as prescribed in § 173.154.

(2) Specification 53[1] or 56 (§§178.247, 178.251, 178.252 of this subchapter). Metal portable tank. Lower side or hopper-type product discharge openings are not permitted.

[Order 66, 30 FR 5745, Apr. 23, 1965, as amended by Order 71, 31 FR 9070, July 1, 1966. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-60, 37 FR 2886, Feb. 9, 1972; 37 FR 3524, Feb. 17, 1972; Amdt. 173-94, 41 FR 16074, Apr. 15, 1976]

Subpart F—Corrosive Materials: Definition and Preparation[2]

SOURCE: 29 FR 18725, Dec. 29, 1964, unless otherwise noted. Redesignated at 32 FR 5606, Apr. 5, 1967.

§ 173.240 Corrosive material; definition.

(a) For the purpose of this subchapter, a corrosive material is a liquid or solid that causes visible destruction or irreversible alterations in human skin tissue at the site of contact, or in the case of leakage from its packaging, a liquid that has a severe corrosion rate on steel.

(1) A material is considered to be destructive or to cause irreversible alteration in human skin tissue if when tested on the intact skin of the albino rabbit by the technique described in Appendix A to this part, the structure of the tissue at the site of contact is destroyed or changed irreversibly after an exposure period of 4 hours or less.

(2) A liquid is considered to have a severe corrosion rate if its corrosion rate exceeds 0.250 inch per year (IPY) on steel (SAE 1020) at a test temperature of 130° F. An acceptable test is described in NACE Standard TM-01-69.

(b) If human experience or other data indicate that the hazard of a material is greater or less than indicated by the results of the tests specified in paragraph (a) of this section, the Department may revise its classification or make the material subject to the requirements of Parts 170-189 of this subchapter.

[Amdt. 173-61, 37 FR 5947, Mar. 23, 1972; as amended by Amdt. 173-74, 38 FR 20839, Aug. 3, 1973; Amdt. 173-94, 41 FR 16074, Apr. 15, 1976]

§ 173.241 Outage.

(a) The outage (ullage) for packagings containing corrosive liquids, when offered for transportation, must be in accordance with the following requirements:

(1) *General outage requirements.* Packagings must not be completely filled. The proper vacant space (outage) in a tank car or other shipping container depends on the coefficient of expansion of the liquid and the maximum increase of temperature to which it will be subjected in transit. Outage must be calculated to the total capacity of the container.

(2) *Outage requirements for packagings of 110 gallons or less.* Sufficient outage must be provided so that the packaging will not be liquid full at 130° F. (55° C.).

(3) *Outage requirements for tank cars.* **In tank cars, outage must be calculated to percentage of the total capacity of the tank, i. e., shell and dome capacity combined. If the dome of the tank car does not provide sufficient outage, then vacant space must be left in the shell to make up the required outage. The outage for tank cars must be not less than 1 percent.**

(4) *Outage requirements for cargo tanks or portable tanks.* **No cargo tank or portable tank, or compartment thereof, used for the transportation of any corrosive liquid shall be completely filled. The outage for cargo tanks and portable tanks must be no less than 2 percent.**

[29 FR 18725, Dec. 29, 1964, Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-61, 37 FR 5947, Mar. 23, 1972; Amdt. 173-94, 41 FR 16074, Apr. 15, 1976]

§ 173.242 Bottles containing corrosive liquids.

(a) **Bottles containing corrosive liquids, as defined by § 173.240, may not be packed in the same outside container with any other article, except as specifically provided in paragraphs (b) and (c) of this section and §§ 173.25, 173.257, 173.258, 173.259, 173.260, 173.261, or 173.286.**

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[1] Use of existing tanks authorized. Construction not authorized after May 31, 1972.

[2] Amdt. 173-61, 37 FR 5947, Mar. 23, 1972.

(b) Bottles containing corrosive liquids cushioned by incombustible absorbent material and securely packed in tightly closed metal containers, except hydrofluoric acid which must be packed in a container other than a metal container, may be packed with other articles. This exception does not apply to nitric acid exceeding 40 percent concentration, perchloric acid, hydrogen peroxide exceeding 52 percent strength by weight, nitrohydrochloric acid, or nitrohydrochloric acid diluted, which must not be packed in the same outside container with any other article under any circumstances.

(c) Corrosive liquid solutions in securely closed bottles, in quantities necessary for preparing photographic processing mixtures and efficiently cushioned, may be packed in the same outside shipping container with required amounts of packaged dry chemicals not classed as hazardous materials by these regulations, provided no dangerous reaction would occur should the contents of bottles be mixed with the dry chemicals. Marking prescribed in Part 172 of this subchapter is not required.

[Amdt. 173-61, 37 FR 5947, Mar. 23, 1972, as amended by Amdt. 173-94, 41 FR 16074, Apr. 15, 1976]

§ 173.243 Closing and cushioning.

(a) All containers must be tightly and securely closed. Inside containers must be cushioned as prescribed or in any case when necessary to prevent breakage or leakage.

§ 173.244 Limited quantities of corrosive materials.

(a) Limited quantities of corrosive materials for which exceptions are permitted as noted by reference to this section in § 172.101 of this subchapter are excepted from labeling (except when offered for transportation by air) and specification packaging requirements when packed according to the following paragraphs. In addition, shipments are not subject to Subpart F of Part 172 of this subchapter, to Part 174 of this subchapter except § 174.24 and to Part 177 of this subchapter except § 177.817.

(1) Corrosive liquids in bottles having a rated capacity not over 16 ounces by volume each enclosed in a metal can packed in strong outside packaging.

(2) Corrosive liquids in metal or plastic containers having a rated capacity not over 16 ounces by volume in strong outside packaging.

(3) Corrosive solids in earthenware, glass, plastic, or paper containers of not more than 5 pounds capacity each packed in metal, wooden or fiberboard outside packaging not exceeding 25 pounds net weight each.

(4) Corrosive solids in metal, rigid fiber or composition cans or cartons or rigid plastic containers; of not more than 10 pounds capacity each, overpacked in metal, wooden or fiberboard outside containers not exceeding 25 pounds net weight each.

(b) Special exceptions for shipment of certain corrosive materials in the ORM-D class are provided in Subpart N of this Part.

(c) Corrosive solids, except those for which no exemptions are provided as indicated by the "No exemption" statement in § 172.5 of this subchapter in inside earthenware, glass, plastic, or paper receptacles of not more than 5 pounds capacity each or in inside metal, rigid fiber or composition cans or cartons, or rigid plastic receptacles, of not more than 10 pounds capacity each, overpacked in metal, wooden, or fiberboard outside containers not exceeding 25 pounds net weight each are, unless otherwise provided in this part, exempt from specification packaging, marking, and labeling requirements, except that marking name of contents on outside container is required for shipments via carrier by water. Shipments for transportation by highway carriers are exempt also from Part 177 of this subchapter, except § 177.817.

[29 FR 18725, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-61, 37 FR 5948, Mar. 23, 1972; Amdt. 173-74, 38 FR 20839, Aug. 3, 1973; Amdt. 173-77, 38 FR 35470, Dec. 28, 1973; Amdt. 173-94, 41 FR 16074, Apr. 15, 1976; Amdt. 173-94A, 41 FR 40682, Sept. 20, 1976]

§ 173.245 Corrosive liquids not specifically provided for.

(a) Corrosive liquids, as defined in § 173.240, other than those for which special requirements are prescribed, must be packed in specification containers constructed of materials that will not react dangerously with or be decomposed by the chemical packed therein, as follows:

(1) Specification 1A, 1B, 1C, or 1E (§§ 178.1, 178.2, 178.3, 178.7 of this subchapter). Glass carboys in boxes, kegs, or plywood drums. Not authorized for transportation by air.

(2) Spec. 1X (§ 178.5 of this subchapter). Boxed carboys; single-trip for export only. For shipment by common carriers by water to noncontiguous territories or possessions of the United States and foreign countries; shipments from inland points in the United States which are consigned to such destinations are authorized to be transported to ship side by rail freight in carload lots only and by motor vehicle in truckload lots only.

(3) Specification 1D (§ 178.4 of this subchapter). Boxed glass carboys of not over 6.5 gallons nominal capacity which must be closed, and when reused must be reconditioned and tested, as provided in the specification; means must be provided so that accumulated pressure in bottles may not exceed 10 pounds per square inch gauge at 130°F(55°C), or will vent at a pressure not to exceed 10 pounds per square inch gauge. Not authorized for transportation by air.

(4) Specification 5A, 5B, 5C, or 5M (§§ 178.81, 178.82, 178.83, 178.90 of this subchapter). Metal barrels or drums.

(5) [Reserved]

(6) [Reserved]

(7) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with inside containers which must be glass, earthenware, polyethylene or other nonfragile plastic material (bags are not authorized), not over 1 gallon each, except that inside containers up to 3 gallons are authorized when only one is packed in each outside container.

(8) Spec. 28 (§ 178.8 of this subchapter). Metal-jacketed lead carboys.

(9) Spec. 5D (§ 178.84 of this subchapter). Rubber lined metal barrels or drums. Any barrel or drum that shows evidence of damage must be tested before shipment for defects in lining in the manner prescribed in § 178.84-15(a) of this subchapter.

(10) Spec. 5H (§ 178.87 of this subchapter). Lead-lined metal barrels or drums.

(11) Spec. 43A (§ 178.18 of this subchapter). Rubber drums.

(12) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with inside containers of polyethylene, or other nonfragile plastic material resistant to the lading, and having threaded closures or other equally efficient type closure, not over 1 gallon capacity each, suitably cushioned to prevent movement within the box. Gross weight of complete package must not exceed 65 pounds.

(13) Spec. 15P or 22C (§ 178.182 or 178.198 of this subchapter). Glued plywood or wooden box, or plywood drum as prescribed by § 178.198-2(a) of this subchapter, with spec. 2T (§ 178.21 of this subchapter) polyethylene container.

(14) Spec. 17C, 17E, or 17F (§§ 178.115, 178.116, or 178.117 of this subchapter). Metal drums (single-trip) with openings not exceeding 2.3 inches in diameter.

(15) Spec. 17H (§ 178.118 of this subchapter). Metal drums (single-trip). Authorized for viscous cleaning compounds, liquid, only.

(16) Specification 6D or 37M (nonreusable container) (§§ 178.102, 178.134 of this subchapter). Cylindrical steel overpacks with inside spec. 2S, 2SL, or 2U (§§ 178.35, 178.35a 178.24 of this subchapter) polyethylene packaging.

(17) Specification 17H, 37A, or 37B (§§ 178.118, 178.131, or 178.132 of this subchapter), metal drums (single-trip), with welded side seams, not over 5 gallons capacity each. Drums must be lined throughout with a pliable plastic material impervious to the lading. Specification 37A and 37B metal drums must be at least 24 gauge steel. Not authorized for transportation by air.

(18) Spec. 12A (§ 178.210 of this subchapter). Fiberboard boxes with inside glass, polyethylene, or other non-fragile plastic bottles not over 1-gallon capacity each. Not more than 4 inside glass bottles exceeding 5 pints capacity each shall be packed in the outside container. Shipper must have established that the completed package meets test requirements prescribed by § 178.210-10 of this subchapter.

(19) Specification 37P (§ 178.133 of this subchapter). Steel drum with polyethylene liner (non-reusable container). Authorized only for materials that will not react with polyethylene and result

in container failure. Not authorized for transportation by air.

(20) Specification 16D (§ 178.187 of this subchapter). Wirebound wooden overwrap, with inside specification 2T, 2TL, 2S, or 2SL (§§ 178.21, 178.27, 178.35, 178.35a of this subchapter) polyethylene container. Not authorized for transportation by air.

(21) Specification 12P (§ 178.211 of this subchapter). Fiberboard boxes with inside specification 2U (§ 178.24 of this subchapter) polyethylene containers not over 5 gallons capacity each. Wire staples are not authorized for assembly or closure of boxes, except when polyethylene container is completely enclosed in inside boxes free of wire staples or other projections that could cause failures. Not authorized for transportation by air.

(22) Specification 16A (§ 178.185 of this subchapter). Wirebound wooden box (§ 178.185-22 of this subchapter) with inside specification 2U (§ 178.24 of this subchapter) polyethylene container. The polyethylene container must be separated from the wooden box by a complete corrugated fiberboard liner and top and bottom pads. Not authorized for transportation by air.

(23) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with inside polyethylene bottles, not over 5 gallons capacity each, as specified by § 178.205-34 of this subchapter. Not more than one bottle shall be packed in one outside box.

(24) Spec. 21P (§ 178.225 of this subchapter). Fiber drum overpack with inside spec. 2S, 2SL, or 2U (§§ 178.35, 178.35a, or 178.24 of this subchapter) polyethylene container.

(25) Spec. 12A or 12B (§§ 178.210 or 178.205 of this subchapter). Fiberboard boxes with inside aluminum containers not over 5 pounds capacity each. Aluminum containers must be approved by the Bureau of Explosives.

(26) Spec. 34 (§ 178.19 of this subchapter). Polyethylene container without overpack, not over 30-gallons capacity.

(27) Specification 33A (§ 178.150 of this subchapter). Polystyrene case (nonreusable container) having one inside glass bottle of not over 16 ounces capacity.

(28) Cylinders as prescribed for any compressed gas, except acetylene. All cylinder valves must be protected by one of the methods described in § 173.301 (g)(1), (2), or (3). See § 173.34(e)(16).

(29) Specification MC 304. Tank motor vehicle meeting § 178.343-2(c) of this subchapter.

(30) Specification MC 307 (§§ 178.340, 178.342 of this subchapter). Tank motor vehicle meeting § 178.343-2(c) of this subchapter.

(31) Specification MC 310, MC 311, or MC 312 (§§ 178.340, 178.343 of this subchapter). Tank motor vehicles. If cargo tank is constructed with bottom outlets, they must meet § 178.343-5 of this subchapter.

(32) Specification 103AW, 103A-ALW, 103ANW, 103BW, 103CW, 103EW, 111A100F2, 111A60ALW2, 111A60W2, 111A60W5, (§§ 179.200, 179.201 of this subchapter). Tank cars.

(33) Specification 103ALW, 103DW, 103W, 104W, 111A60ALW1, 111A60W1, 111A100W3, 111A100W6, 115A60W6, or AAR206W (§§ 179.200, 178.201, 179.220 of this subchapter). Tank cars. (See Note 1.)

NOTE 1: Authorized only on an interim basis pending the Department's decision on use of bottom outlets for tank cars containing hazardous materials.

(34) Specification 42B (§ 178.107 of this subchapter). Aluminum drum.

(b) Except when transportation by aircraft or vessel is involved, a material classed as a corrosive material that is corrosive only to steel and does not meet the definition of any other hazard class defined in this subchapter, is excepted from the requirements of this subchapter for rail or highway when transported in a portable tank, cargo tank, or tank car constructed of materials that will not react dangerously with or be degraded by the material being transported.

[29 FR 18725, Dec. 29, 1964, as amended by Order 71, 31 FR 9070, July 1, 1966. Redesignated at 32 FR 5606, Apr. 5, 1967. And amended by Amdt. 173-6, 34 FR 7161, May 1, 1969; Amdt. 173-61, 37 FR 5948, Mar. 23, 1972; Amdt. 173-74, 38 FR 20839, Aug. 3, 1973; Amdt. 173-77, 38 FR 35470, Dec. 28, 1973; Amdt. 173-81, 39 FR 17318, May 15, 1974; Amdt. 173-94, 41 FR 16074, Apr. 15, 1976; Amdt. 173-94A, 41 FR 40682, Sept. 20, 1976]

§ 173.245a Corrosive liquids, n.o.s. shipped in bulk.

(a) Corrosive liquids, n.o.s. which are listed in the following table, may not be shipped in bulk unless they are packaged as follows:

Corrosive liquid	Authorized tank car	Authorized portable tank [3]
Dichlorobutene and Dichlorobutene mixtures	105A300W 112A340W	
Ethyl chlorothiolformate.		DOT-51. monel-clad.
Ethyl phosphonothioic dichloride, anhydrous	103AW 111A60W2	DOT-51.
Ethyl phosphonous dichloride, anhydrous.		DOT-51.
Ethyl phosphorodichloridate.	103ANW, 103AW, 111A100F2, 111A100W2.[2]	
Methyl phosphonothioic, dichloride, anhydrous.	103AW	DOT-51.
Methyl phosphonous dichloride.[1]		DOT-51.

[1] In an unlined tank, must be loaded and shipped under a blanket of nonflammable, dry, inert gas, adequate to displace any significant amount of air.

[2] Specification 103ANW tank car tank must be solid nickel at least 95 percent pure; all cast metal parts of the tank in contact with the lading must have a minimum nickel content of approximately 96.7 percent. Specification 103A tank car tanks must be lead-lined steel or must be made of steel at least 10 percent nickel clad; specification 103AW, 111A100F2, or 111A60W2 tank must be lead-lined steel or made of steel with a minimum thickness of nickel cladding 1/16 inch; nickel cladding in tanks must have a minimum nickel content at least 99 percent pure nickel.

[3] Tank must be equipped with a safety-relief valve set at not less than 100 psig. In addition, the relief valve must comply with § 173.315(i)(1).

(b) Corrosive liquids, n.o.s., except those listed in paragraph (a) of this section, when shipped in bulk, must be packaged as prescribed by § 173.245.

[Amdt. 173-57, 36 FR 21288, Nov. 5, 1971, as amended by Amdt. 173-74, 38 FR 20839, Aug. 3, 1973; Amdt. 173-80, 39 FR 15035, Apr. 30, 1974]

§ 173.245b Corrosive solids not specifically provided for.

(a) Corrosive solids, as defined in § 173.240, other than those for which special requirements are prescribed, must be packaged in containers fully complying with § 173.24, as follows:

(1) Metal, wooden, or fiberboard box or case with inside containers which must be earthenware, glass, metal, plastic, or fiber or composition board of not more than 10 pounds net weight capacity each.

(2) Fiberboard box with inside paper bags, not over 50 pounds total net capacity. When shipped by water, each box must include a moisture barrier.

(3) Fiberboard box with one inside plastic bag of not over 120 pounds net weight capacity.

(4) Metal drum.

(5) Fiber drum not exceeding 550 pounds net weight and not over 55-gallon capacity. When shipped by water, each drum must include a moisture barrier.

(6) Plastic drum or pail not exceeding 80 pounds net weight and not over 6-gallon capacity.

(7) Bag: Each bag filled to weight with product and closed as for shipment must be capable of withstanding four drops from a height of 4 feet onto a solid surface, one drop on each end and one drop on each face, without sifting or rupture. Authorized net weight not to exceed 110 pounds. When shipped by water, each bag must include a moisture barrier.

(8) Metal portable tank or closed bin of not over 660-gallon capacity and 7,000 pounds gross weight.

(9) Fiberglass or rubber tank or closed bin of not over 74-cubic-foot capacity.

(10) Metal sift-proof cargo tank or tank car, or hopper-type or pneumatic bulk vehicle.

[Amdt. 173-61, 37 FR 5948, Mar. 23, 1972, as amended by Amdt. 173-74, 38 FR 20839, Aug. 3, 1973]

§ 173.246 Antimony pentafluoride, bromide pentafluoride, iodine pentafluoride, bromine trifluoride, and chlorine trifluoride.

(a) Antimony pentafluoride must be chemically anhydrous. Materials cited in the heading of this section must be packed in specification packagings as follows:

(1) Specification 3A150, 3AA150, 3B240, 3BN150, 4B240, 4BA240, 4BW240, or 3E1800 (§§ 178.36, 178.37, 178.38, 178.39, 178.50, 178.51, 178.61, 178.42 of this subchapter). Cylinders. Each valve outlet must be sealed by a threaded cap or a threaded plug. Cylinder valves must be protected as specified for corrosive gases in § 173.301(g). No cylinder may be equipped with any safety relief device. Specification 3E1800 cylinders must be packaged in accordance with the requirements of § 173.301(k).

(2) Specification 106A500X or 110A-500W (§§ 179.300, 179.301 of this subchapter). Tanks. Authorized for iodine pentafluoride and chlorine trifluoride only. Each tank must be equipped with

a valve protection cover and with solid steel plugs in place of fusible plug safety devices. No tank may be equipped with any safety relief device.

[Amdt. 173–81, 39 FR 17318, May 15, 1974]

§ 173.247 Acetyl bromide, acetyl chloride, acetyl iodide, antimony pentachloride, benzoyl chloride, boron trifluoride-acetic acid complex, chromyl chloride, dichloroacetyl chloride, diphenylmethyl bromide solution, pyro sulfuryl chloride, silicon chloride, sulfur chloride (mono and di), sulfuryl chloride, thionyl chloride, tin tetrachloride (anhydrous), titanium tetrachloride, and trimethyl acetyl chloride.

(a) Acetyl bromide, acetyl chloride, acetyl iodide, antimony pentachloride; benzoyl chloride, boron trifluoride-acetic acid complex, chromyl chloride, dichloroacetyl chloride, diphenylmethyl bromide solutions, pyro sulfuryl chloride, silicon chloride, sulfuryl chloride (mono and di), sulfuryl chloride, thionyl chloride, tin tetrachloride (anhydrous), titanium tetrachloride, and trimethyl acetic chloride must be packaged in specification packagings as follows:

(1) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with glass or earthenware inside containers not over 1 gallon each, except that inside containers up to 3 gallons each are authorized when only one is packed in an outside container.

(2) [Reserved]

(3) Specification 1A, 1C, 1D, 1E, or 1K (§§ 178.1, 178.3, 178.4, 178.7, 178.14 of this subchapter). Glass carboys in boxes, kegs or plywood drums (not permitted for antimony pentachloride or tin tetrachloride, anhydrous). Not authorized for transportation by air.

(4) Spec. 1X (§ 178.5 of this subchapter). Boxed carboys; single-trip for export only. For shipment by common carriers by water to noncontiguous territories or possessions of the United States and foreign countries; shipments from inland points in the United States which are consigned to such destinations are authorized to be transported to ship side by rail freight in carload lots only and by motor vehicle in truckload lots only (not permitted for antimony pentachloride or tin tetrachloride anhydrous).

(5) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with aluminum bottles of 99 percent pure aluminum not over 1 gallon capacity each, having aluminum screw caps with gasket resistant to contents. Authorized for chromyl chloride only.

(6) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes having inside containers of securely closed soft-lead tubes having not more than 65 fluid ounces capacity each, which tubes shall be individually packed in securely closed steel tubes, with not more than 3 such steel tubes fastened together as a unit. The inside units shall be surrounded on all sides with incombustible mineral material. Authorized for titanium tetrachloride only.

(7) Specification 5, 5A, 5B, or 17C (§§ 178.80, 178.81, 178.82, 178.115 of this subchapter). Metal barrels or drums with openings not exceeding 2.3 inches in diameter.

(8) Spec. 5K (§ 178.88 of this subchapter). Nickel drums, authorized for acetyl chloride, benzoyl chloride, pyro sulfuryl chloride, sulfuryl chloride, and thionyl chloride only. When shipped in unstabilized condition, the lading must be anhydrous and must be free from impurities such as iron.

(9) Spec. 5C (§ 178.83 of this subchapter). Barrels or drums of type 304 stainless steel not over 30 gallons capacity each. Authorized for chromyl chloride only.

(10) Spec. 42D (§ 178.109 of this subchapter). Aluminum drums not over 30 gallons capacity each. Authorized for chromyl chloride only.

(11) Spec. 60 (§ 178.255 of this subchapter). Portable tanks.

(12) Specification MC 310, MC 311, or MC 312 (§ 178.343 of this subchapter). Tank motor vehicles.

(13) Specification 103A,[1] 103AW, 105A300W, 111A60W2, or 111A100F2 (§§ 179.100, 179.101 179.200, 179.201 of this subchapter) tank cars, except that for tin tetrachloride (anhydrous) specification 105A300W tank cars must be used.

(14) Specification 103A,[1] 103AW, 111A60W2, or 111A100F2 (§§ 179.200, 179.201 of this subchapter). Tank cars. Authorized for titanium tetrachloride, anhydrous only. Tank cars must have safety valves of approved design and not subject to rapid deterioration by the lading.

(15) Sulfur chloride packed in glass or earthenware bottles or carboys must be cushioned in the outside container by means of incombustible elastic packing material of such nature that a mixture of the liquid and the packing material will not cause fires or heating.

(16) Specification 106A500X or 110A500W (§§ 179.300, 179.301) tanks. Authorized only for antimony pentachloride and titanium tetrachloride (anhydrous). Tanks containing titanium tetrachloride (anhydrous) must not be equipped with safety devices. (See § 177.834(m) of this subchapter for special requirements for highway shipments.)

(17) Specification 4BA240 or 4BW240 (§§ 178.51, 178.61 of this subchapter). Metal cylinder. Authorized only for titanium tetrachloride or tin tetrachloride, anhydrous, without any compressed gas. Safety relief devices are not authorized.

[29 FR 18725, Dec. 29, 1964, as amended by Order 73, 32 FR 3456, Mar. 2, 1967. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–11, 34 FR 12591, Aug. 1, 1969; Amdt. 173–64, 37 FR 14587, July 21, 1972; Amdt. 173–77, 38 FR 35471, Dec. 28, 1973; Amdt. 173–80, 39 FR 15035, Apr. 30, 1974; Amdt. 173–81, 39 FR 17318, May 15, 1974; 39 FR 18462; May 28, 1974; Amdt. 173–94, 41 FR 16075, Apr. 15, 1976]

§ 173.247a Vanadium tetrachloride and vanadium oxytrichloride.

(a) Vanadium tetrachloride and vanadium oxytrichloride must be packed in specification packagings as follows:

(1) Specifications 4B240, 4BA240 and 4BW240 (§§ 178.50, 178.51, 178.61 of this subchapter). Cylinders.

(2) Specification 51 (§ 178.245 of this subchapter) portable tanks.

[Amdt. 173–11, 34 FR 12591, Aug. 1, 1969, as amended by Amdt. 173–84, 39 FR 33532, Sept. 18, 1974; Amdt. 173–94, 41 FR 16075, Apr. 15, 1976]

§ 173.248 Acid sludge, sludge acid, spent sulfuric acid, or spent mixed acid.

(a) Acid sludge, sludge acid, spent sulfuric acid, or spent mixed acid, resulting from the use of sulfuric acid in various processes, not containing hydrofluoric acid, must be packaged as follows:

(1) Specification 1A, 1D, or 1E (§§ 178.1, 178.4, 178.7 of this subchapter). Carboys in boxes or plywood drums. Authorized only for spent sulfuric acid. Not authorized for transportation by air.

(2) Spec. 1X (§ 178.5 of this subchapter) Boxed carboys; single-trip for export only. For shipment by common carriers by water to noncontiguous territories or possessions of the United States and foreign countries; shipments from inland points in the United States which are consigned to such destinations are authorized to be transported to ship side by rail freight in carload lots only and by motor vehicle in truckload lots only.

(3) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185 or 178.190 of this subchapter). Wooden boxes with inside containers which must be glass or earthenware, not over 1 gallon each, except that inside containers up to 3 gallons are authorized when only one is packed in each outside container.

(4) Specification 103A,[1] 103AW, 111A60W2, or 111A100F2 (§§ 179.200 and 179.201 of this subchapter). Tank cars, provided the product is sufficiently liquid to be unloaded through the dome or manway. Tanks which do not contain products or contaminants that give off noxious or flammable vapors may be equipped with safety vents incorporating lead discs having a ⅛-inch breather hole in the center thereof.

(5) Spec. 103,[1] 103–W, 111A60–F–1, or 111A60–W–1 (§§ 179.200 and 179.201 of this subchapter). Tank cars, provided the product is too viscous to be unloaded through the dome or manway. Tanks which do not contain products or contaminants that give off noxious or flammable vapors may be equipped with safety vents incorporating lead discs having a ⅛-inch breather hole in the center thereof.

(6) Specification MC 310, MC 311, or MC 312 (§ 178.343 of this subchapter). Tank motor vehicles.

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[1] The use of existing tanks authorized but new construction not authorized.

[1] The use of existing tanks authorized but new construction not authorized.

(7) Spec. 60 (§ 178.255 of this subchapter). Portable tanks.

[29 FR 18725, Dec. 29, 1964, as amended by Order 71, 31 FR 9070, July 1, 1966; Order 73, 32 FR 3456, Mar. 2, 1967. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-70, 39 FR 15036, Apr. 30, 1974; Amdt. 173-94, 41 FR 16075, Apr. 15, 1976]

§ 173.249 Alkaline corrosive liquids, n.o.s.; Alkaline liquids, n.o.s.; Alkaline corrosive battery fluid; Potassium fluoride solution; Potassium hydrogen fluoride solution; Sodium aluminate, liquid; Sodium hydroxide solution; Potassium hydroxide solution; Boiler compound solution.

(a) Alkaline corrosive liquids, n.o.s.; Alkaline liquids, n.o.s.; Alkaline corrosive battery fluid; Potassium fluoride solution; Potassium hydrogen fluoride solution; Sodium aluminate, liquid; Sodium hydroxide solution; Potassium hydroxide solution; Boiler compound solution when offered for transportation by carriers by rail freight, highway, or water must be packed in specification containers of a design and constructed of materials that will not react dangerously with or be decomposed by the chemical packed therein as follows:

(1) In containers prescribed in § 173.245.

(2) Spec. 15A, 15B, 15C, 16A, or 19A (§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with glass or earthenware inside containers, not over 2 gallons each, or with metal inside containers, not over 5 gallons each.

(3) Specification 5 (§ 178.80 of this subchapter) metal drums. Openings must not exceed 2.3 inches in diameter.

(4) Spec. 17H (§ 178.118 of this subchapter). Metal drums (single-trip). Authorized only for liquid boiler compounds or liquid water treatment compounds.

(5) Specification 103,[1] 103W, 103A,[1] 103AW, 103B,[1] 103BW, 104,[1] 104W, 105A100,[1] 105A100W, 111A60F1, 111A60W1, 111A60W2, 111A100F2, 111A60W5, or 111A100W4 (§§ 179.100, 179.101, 179.200, 179.201 of this subchapter). Tank cars.

(6) Specification MC 310, MC 311, or MC 312 (§ 178.343 of this subchapter). Tank motor vehicles.

(7) Spec. 60 (§ 178.255 of this subchapter), portable tanks.

(8) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with glass inside containers of not over 16 ounces capacity each.

(9) [Reserved]

(10) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes, with not more than one glass inside container not over 1 gallon capacity containing sodium hydroxide solution not over 25 percent strength and packed in a strong fiberboard box. Dry chemicals for photographic development process not classed as dangerous articles, contained in suitable inside packages, may be packed in the same outside box. The marking requirements of § 173.401(c) shall not apply.

(11) Spec. 29 (§ 178.226 of this subchapter). Mailing tubes, with not more than one inside polyethylene bottle not over 1-quart capacity each.

(12) Spec. 1H (§ 178.13 of this subchapter). Metal crate with inside polyethylene container spec. 2T (§ 178.21 of this subchapter).

(b) Alkaline corrosive liquids, n.o.s., alkaline liquids, n.o.s., alkaline corrosive battery fluids, and liquid sodium aluminate, when offered for transportation by cargo-only aircraft, must be packaged as follows (also authorized for transportation by rail freight, highway, or water):

(1) In packagings as prescribed in paragraphs (a)(8), (10), and (11) of this section and § 173.245(a)(7) and (12).

(2) Spec. 5 or 5A (§ 178.80 or 178.81 of this subchapter). Metal barrels or drums, capacity not exceeding 10 gallons, with openings not exceeding 2.3 inches in diameter.

(3) Spec. 15A, 15B, 15C, 16A, or 19A (§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with glass or earthenware inside containers not over 1 gallon each, or with metal cans not over 5 gallons each.

(c) Limited quantities of alkaline corrosive liquids, n.o.s., alkaline liquids, n.o.s., alkaline corrosive battery fluids, and liquid sodium aluminate in inside packagings of not more than 8 fluid ounces capacity each, packed in strong outside packagings, and cushioned with absorbent material in sufficient quantity to completely absorb liquid contents in the event of breakage, are excepted from labeling (except labeling is required for transportation by air) and specification packaging requirements of this subchapter. In addition, shipments are not subject to Subpart F of Part 172 of this subchapter, to Part 174 of this subchapter except § 174.24 and to Part 177 of this subchapter except § 177.817.

(d) Special exceptions for shipment of certain alkaline in the ORM-D class are provided in Subpart N of this part.

[29 FR 18725, Dec. 29, 1964, as amended by Order 66, 30 FR 5745, Apr. 23, 1965; Order 73, 32 FR 3456, Mar. 2, 1967. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by, Amdt. 173-77, 38 FR 35471, Dec. 28, 1973; Amdt. 173-80, 39 FR 15036, Apr. 30, 1974; Amdt. 173-94, 41 FR 16075, Apr. 15, 1976; Amdt. 173-94A, 41 FR 40682, Sept. 20, 1976]

§ 173.249a Cleaning compound, liquid; Coal tar dye, liquid; Dye intermediate, liquid; Mining reagent, liquid; and Textile treating compound mixture, liquid.

(a) A liquid cleaning compound subject to this section must not contain any corrosive material specifically named in § 172.5(a) of this subchapter, except phosphoric acid, acetic acid, and not over 15 percent sodium or potassium hydroxide.

(b) A liquid dye intermediate is a ring compound, containing amino, hydroxy, sulfonic acid, or quinone group or a combination of these groups, used in the manufacture of dyes, and not otherwise specifically named in § 172.5 of this subchapter.

(c) A liquid textile treating compound mixture is a mixture used to treat woven, knit or otherwise manufactured fabrics. It does not include mixtures used only to treat fibers, filaments, or yarn used in making the fabric.

(d) Liquid coal tar dye, liquid cleaning compound, liquid dye intermediate, liquid mining reagent, and liquid textile treating compound mixture must be packaged as follows:

(1) In specification packagings as prescribed in § 173.245.

(2) In packagings meeting all of the specific requirements prescribed in § 173.245 including packaging type and quantity limitations for inside packagings. The packagings are not required to meet the detailed specification requirements of Part 178 of this subchapter except that size and weight limitations for package types as prescribed in Part 178 may not be exceeded. Not authorized for shipment by aircraft.

(3) Removable (open) head fiber drum lined or coated on the inside with a plastic material, not over 55-gallon capacity. Not authorized for shipment by aircraft.

(4) Removable (open) head metal drum, not over 55-gallon capacity. Not authorized for shipment by aircraft.

(5) Removable (open) head polyethylene drum, not over 6.5-gallon capacity. Not authorized for shipment by aircraft.

[Amdt. 173-77, 38 FR 35471, Dec. 28, 1973]

§ 173.250 Automobiles, other self-propelled vehicles, engines or other mechanical apparatus.

(a) Automobiles and other self-propelled vehicles equipped with electric storage batteries, wet, and electric storage batteries, wet when included in carload or truckload shipments of automobile parts or assembled material in accordance with paragraphs (a) (1), (2) and (3) of this section are excepted from any other requirements of this subchapter unless other hazardous materials are being transported on such vehicle. In this case, the regulations covering these other materials apply.

(1) When batteries are removed from automobiles and loaded into car or motor vehicle therewith, the batteries must be so loaded, blocked, and braced in car as to prevent movement therein during transit, and the load must be so arranged that loose articles cannot come into contact with the batteries.

(2) When wet batteries or batteries shipped dry in the same container with electrolyte (acid) are shipped with automobile parts or assembly material, the batteries must be boxed or crated and so loaded, blocked, and braced in the car or motor vehicle as to prevent movement therein during transit, and the load must be so arranged that loose articles cannot come in contact with the batteries.

(3) When batteries are installed in the vehicle, they must be completely protected so that short circuits will be prevented and so secured that leakage of acid will not occur under conditions normal to transportation.

(b) Engines or mechanical apparatus of such size or weight as to require securement to skids to facilitate handling may have electric storage batteries, wet, necessary for the operation thereof, either securely fastened in the holder provided on the equipment and protected, including battery terminals, in such manner as to prevent damage thereto or short circuits, or completely boxed in containers of sound lumber and with filling holes upright, securely fastened to the skids upon which the engine or mechanical apparatus is mounted to prevent accidental tipping or looseness in transportation. Electric storage batteries, wet, as described herein are exempt from specification packaging.

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[1] The use of existing tanks authorized, but new construction not authorized.

[29 FR 18725, Dec. 29, 1964. Redesignated, at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16075, Apr. 15, 1976; Amdt. 173-94A, 41 FR 40682, Sept. 20, 1976]

§ 173.250a Benzene phosphorus dichloride and benzene phosphorus thiodichloride.

(a) Benzene phosphorus dichloride and benzene phosphorus thiodichloride must be packaged as follows:

(1) In packagings prescribed in § 173.245 which are made of or lined with materials compatible with the lading.

(2) Spec. MC 310, MC 311, or MC 312 (§ 178.343) cargo tanks. Corrosion protection must be provided in accordance with spec. MC 312.

(3) Spec. 103AW (§§ 179.200 and 179.201) tank cars. Tanks must be lined.

[Amdt. 173-8, 34 F.R. 9868, June 26, 1969]

§ 173.251 Boron trichloride and boron tribromide.

(a) Boron trichloride must be packed in specification containers as follows:

(1) Cylinders as prescribed for any compressed gas, except acetylene.

(2) Specification 105A300W or 106A500X (§§ 179.100, 179.101, 179.300, 179.301 of this subchapter). Tank cars.

(b) Boron tribromide must be packed in specification packagings as follows:

(1) Specification 15A, 15B, or 15P (§§ 178.168, 178.169, 178.182 of this subchapter). Wooden or plywood boxes with inside glass receptacles not over 1 quart capacity each. Each glass receptacle must have a positive closure (not friction) and as prepared for shipment must be capable of withstanding an internal gage pressure of at least 15 p.s.i. The receptacle must be cushioned with sufficient absorbent incombustible material to completely absorb the contents in the event of leakage and must be packed within a securely closed metal can. Each can must then be cushioned with incombustible material within the prescribed outside packaging. Completed packaging for shipment must be capable of passing the tests prescribed in § 178.182-3(a)(1) of this subchapter.

(2) Specification 5C or 5M (§§ 178.83, 178.90 of this subchapter). Metal drums not exceeding 30 gallons capacity. Specification 5C drums must be constructed of at least 14-gage stainless steel.

[29 FR 18725, Dec. 29, 1964. Redesignated at 33 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-62, 37 FR 9222, May 6, 1972; Amdt. 173-65, 37 FR 16496, Aug. 15, 1972; Amdt. 173-94, 41 FR 16075, Apr. 15, 1976]

§ 173.252 Bromine.

(a) Bromine must be packed in specification containers as follows:

(1) Spec. 15A or 15B (§§ 178.168 or 178.169 of this subchapter). Wooden boxes with glass inside containers not over 1 quart each; or with stone or earthenware jugs not over 1 gallon each.

(2) Spec. 5H (§ 178.87 of this subchapter). Lead-lined metal barrels or drums not over 10 gallons each.

(3) Specification 105A300W (§§ 179.100, 179.101 of this subchapter). Tank car. Each tank must have a nickel cladding material on the inside surface comprising at least 20 percent of the total thickness, or be lined with lead no less than 3/16-inch thick. Openings in tank heads to facilitate application of lead lining are authorized and must be closed in an approved manner. All closures and appurtenances which are in contact with the lading must be lead lined or must be made of metal not subject to rapid deterioration by contact with the lading. All interior welds in nickel clad tanks must be protected by pure nickel butt straps. Except as otherwise provided herein, the water weight capacity of the tank must not be more than 20,400 pounds, and the maximum quantity of liquid bromine loaded into the tank must not be more than 60,000 pounds or 300 percent of the water weight capacity of the tank, whichever quantity is less. The total quantity loaded must not be less than 98 percent of the quantity the tank is authorized to carry.

(i) A tank constructed and maintained in full compliance with the requirements of a Specification DOT-105A500W is authorized for larger capacities of bromine. However, this tank may be marked DOT-105A300W and may be equipped with manway cover plates, safety valves, venting valves, loading valves, and unloading valves that are in compliance with the requirements of a Specification DOT-105A300W tank. The water weight capacity of this tank must not be more than 37,400 pounds, and the maximum quantity of liquid bromine loaded into the tank must not be more than 110,000 pounds or 300 percent of the water weight capacity of the tank, whichever quantity is less.

(ii) Each tank car must be marked "BROMINE" in accordance with the requirements of § 172.330 of this subchapter.

(4) Specification MC 310 or MC 312 (§ 178.343 of this subchapter). Tank motor vehicles. Each tank must have a shell and head thickness of at least three-eighths inch. Each tank must have a nickel cladding material on the inside surface comprising at least 20 percent of the total thickness or be lined with lead at least 3/16-inch thick. The cladding material must conform to requirements of ASTM Specification B-162-69. The composite plate must conform to requirements of ASTM Specification A-265-69. The maximum quantity of liquid bromine loaded into the tank must not exceed 300 percent of the water weight capacity of the tank. The total quantity loaded must not be less than 98 percent of the quantity the tank is authorized to carry.

(b) Outage (vacant space above liquid) for inside containers must be not less than 15 percent of capacity of container.

(c) For other authorized containers an outage of not less than 10 percent is required.

(d) Inside containers must be closed by glass, earthenware, or stone stoppers ground to fit and securely fastened; or bottles may have necks with molded screw threads which must be closed by threaded-type caps with lead or other efficient bromine-resistant gaskets and cushioned by elastic material to insure tight closure. Sealed glass ampoules are also authorized.

(e) Except as provided in paragraphs (g) (2) and (3) of this section, bottles or jugs must be securely cushioned on all sides with incombustible packaging material, such as whiting, mineral wool, infusorial earth (keiselguhr), sifted ashes, powdered china clay, or similar material, at least 1 inch thick, which will not produce heat when mixed with bromine. The use of hay, sawdust, excelsior, or other organic material, either treated or untreated, as a cushioning or packaging material is prohibited.

(f) Not more than 15 quarts of bromine in bottles, nor more than 12 quarts in jugs, may be packed in one box.

(g) Bromine which has been dried in accordance with good commercial practice may also be packed in specification containers as follows:

(1) Spec. 5K or 5M (§§ 178.88 or 178.90 of this subchapter). Nickel or monel drums of not over 10 gallons capacity each and containing not more than 225 pounds net weight of bromine. Drums must be of metal at least 14 gauge United States standard throughout and must have chime reinforcement adequate for their protection. All openings must be in one head and closing parts (plug, cap, flange, etc.) must be of the same metal as the drum. One opening not over 2.3 inch diameter and one opening not over 3/4 inch standard pipe size are permitted. Each drum must be completely emptied and dried before reuse and must be equipped with gaskets of a material approved by the Bureau of Explosives.

(2) Specification 12A (§ 178.210 of this subchapter). Fiberboard boxes, constructed of at least 275 pound test (Mullen or Cady) double-wall corrugated fiberboard having not more than six inside glass bottles of not over 1 quart capacity. Each inside glass bottle must be surrounded by a sheet of polyethylene foam at least 7/16 inch thick (see Note 1), and approximately the same height as the bottle, and must also be separated by partitions made of corrugated fiberboard at least 275-pound test (Mullen or Cady). The box must be provided with inside top and bottom pads of polyethylene foam at least 1 1/8 inches thick (see Note 1). Shipper must have established

that the completed package closed as for shipment, with inside packagings filled with liquid of same specific gravity as bromine, is capable of withstanding tests prescribed by § 178.210–10 of this subchapter. Not authorized for transportation by air.

NOTE 1: Other materials of equal efficiency and compatibility are also authorized.

(3) Specification 12A (§ 178.210 of this subchapter). Fiberboard box with inside glass bottles having a capacity not exceeding one quart with closures meeting the requirements of paragraph (d) of this section. Each bottle must be enclosed in a tinplate slipcover metal can surrounded by non-combustible cushioning material. Each box may not contain more than four bottles with each having a capacity not exceeding 1 quart or 12 bottles with each having a capacity not exceeding 8 fluid ounces. The shipper must have established that the completed package closed for shipment, with inside bottles filled with a liquid of the same specific gravity and similar viscosity as bromine, is capable of withstanding the tests prescribed in § 178.210–10 of this subchapter. Not authorized for transportation by air.

[29 FR 18725, Dec. 29, 1964, as amended by Order 66, 30 FR 5745, Apr. 23, 1965; Order 73, 32 FR 3456, Mar. 2, 1967. Redesignated, 32 FR 5606, Apr. 5, 1967. And amended by Amdt. 173–57, 36 FR 21288, Nov. 5, 1971; Amdt. 173–81, 39 FR 17318, May 15, 1974; Amdt. 173–94, 41 FR 16075, Apr. 15, 1976]

§ 173.253 Chloracetyl chloride.

(a) Chloracetyl chloride must be packed in specification containers as follows:

(1) Spec. 15A or 15B (§§ 178.168 or 178.169 of this subchapter). Wooden boxes, with inside glass containers not over 5 pints capacity each, cushioned with incombustible material.

(2) Spec. 28 (§ 178.8 of this subchapter). Metal-jacketed lead carboys.

(3) Spec. 5H (§ 178.87 of this subchapter). Lead-lined metal barrels or drums.

(4) [Reserved]

(5) Spec. 5K (§ 178.88 of this subchapter). Nickel drums.

(6) Specification MC 310, MC 311, or MC 312 (§ 178.343 of this subchapter). Tank motor vehicles having tanks fabricated from Type 316 stainless steel.

(7) Specification 103AW, 111A60W2, or 111A100F2 (§§ 179.200, 179.201 of this subchapter). Tank cars. Tanks must have a nickel cladding of 1/16-inch minimum thickness. Nickel cladding in tanks must have a minimum nickel content of at least 99 percent pure nickel.

(8) Spec. 103A–N–W (§§ 179.200 and 179.201 of this subchapter). Tank cars. Tank must be of solid nickel at least 99 percent pure and all cast metal parts of the tank in contact with the lading must have a minimum nickel content of approximately 96.7 percent.

[28 FR 18725, Dec. 29, 1964, as amended by Order 73, 32 FR 3456, Mar. 2, 1967. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–80, 39 FR 15036, Apr. 30, 1974; Amdt. 173–94, 41 FR 16075, Apr. 15, 1976]

§ 173.254 Chlorosulfonic acid and mixtures of chlorosulfonic acid-sulfur trioxide.

(a) Chlorosulfonic acid and mixtures of chlorosulfonic acid-sulfur trioxide must be packed in specification containers as follows:

(1) Spec. 5A or 5C (§§ 178.81 or 178.83 of this subchapter). Metal barrels or drums.

(2) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes, with inside containers which must be glass or earthenware, not over 1 gallon each, except that inside containers up to 3 gallons are authorized when only one is packed in each outside container.

(3) [Reserved]

(4) Specification 103A,[1] 103AW, 103CW, 103EW, 111A60W2, 111A60W7, or 111A100F2 (§§ 179.200, 179.201 of this subchapter). Tank cars.

(5) Specification MC 310, MC 311, or MC 312 (§ 178.343 of this subchapter). Tank motor vehicles.

[29 FR 18725, Dec. 29, 1964, as amended by Order 73, 32 FR 3456, Mar. 2, 1967. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–80, 39 FR 15036, Apr. 30, 1974; Amdt. 173–81, 39 FR 17318, May 15, 1974; Amdt. 173–94, 41 FR 16076, Apr. 15, 1976]

§ 173.255 Dimethyl sulfate.

(a) Dimethyl sulfate must be packed in specification containers as follows:

(1) Spec. 5A or 5C (§§ 178.81 or 178.83 of this subchapter). Metal barrels or drums not over 55 gallons each. Spec. 5C metal barrels or drums must be constructed of Type 304 stainless steel.

(2) Spec. 5 (§ 178.80 of this subchapter). Metal barrels or drums not over 15 gallons each, with openings not exceeding 2.3 inches in diameter, inclosed in strong crates made of lumber at least 5/8 inch thick.

(3) Spec. 15A, 15B, 15C, 16A, or 19A (§ 178.168, § 178.169, § 178.170, § 178.185, or § 178.190 of this subchapter). Wooden boxes with each box containing a single glass inside container not over 1 quart capacity, closed by ground glass stopper or other equally efficient closure securely fastened in place, and cushioned with incombustible absorbent material in hermetically sealed (soldered) metal can, the can then being cushioned with incombustible cushioning material in the outside container.

(4) Spec. 103A,[1] 103A–W, 111A100–F–2, or 111A100–W–2 (§§ 179.200, 179.201 of this subchapter). Tank cars.

(5) Specification MC 310, MC 311, or MC 312 (§ 178.343 of this subchapter). Tank motor vehicles.

(6) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with each box containing not more than six inside glass containers not over 1-quart capacity each, closed by plastic screw-cap resistant to the lading, and each completely surrounded by incombustible absorbent cushioning material and enclosed in a metal can having rolled, seamed-on heads of a key-opening type; or in not more than six inside glass containers not over 1-quart capacity each, closed by ground glass stopper, by plastic screw-cap resistant to the lading, or by other equally efficient closure securely fastened in place, and cushioned with incombustible absorbent material in hermetically sealed (soldered) metal can, the can then being cushioned with incombustible cushioning material in the outside container.

[29 FR 18725, Dec. 29, 1964, as amended by Order 73, 32 FR 3456, Mar. 2, 1967. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–94, 41 FR 16076, Apr. 15, 1976]

§ 173.256 Compounds, cleaning, liquid.

(a) Compounds, cleaning, liquid, containing not more than 60 percent hydrofluoric acid, must be packed in specification containers as follows:

(1) As prescribed in § 173.264 (a) (1) and (2).

(2) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with inside containers of natural rubber, ceresine, lead, or other material of equal strength and not subject to destruction by the lading.

(3) Spec. 22B (§ 178.197 of this subchapter). Plywood drums equipped with molded liner of type and material approved by the Bureau of Explosives.

(4) Specification 16A (§ 178.185 of this subchapter). Wirebound wooden box (§ 178.185–22 of this subchapter) with inside specification 2U (§ 178.24 of this subchapter) polyethylene container. The polyethylene container must be separated from the wooden box by a complete corrugated fiberboard liner and top and bottom pads. Not authorized for transportation by air.

(5) Spec. 6D or 21P (§ 178.102 or §§ 178.225 of this subchapter). Cylindrical steel overpack or fiber drum overpack with inside spec. 2U (§ 178.24 of this subchapter) polyethylene container not over 15-gallons capacity.

[29 FR 18725, Dec. 29, 1964, as amended by Order 71, 31 FR 9070, July 1, 1966. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–94, 41 FR 16076, Apr. 15, 1976]

§ 173.257 Electrolyte (acid) and alkaline corrosive battery fluid.

(a) Electrolyte (acid) may not be over 47 percent strength (39° Baume). Electrolyte or alkaline corrosive battery fluid must be packaged as follows (packaging utilizing a bag to contain the electrolyte or battery fluid is not authorized for transportation by air):

(1) As prescribed in § 173.272 except that unlined tank cars and metal barrels or drums must not be used.

(2) Spec. 43A (§ 178.18 of this subchapter). Rubber drums.

(3) When the material is alkaline it may also be shipped when packed in containers as prescribed in § 173.249.

(4) Specification MC 310, MC 311, or MC 312 (§ 178.343 of this subchapter).

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[1] Use of existing tank cars authorized, but new construction not authorized.

Tank motor vehicles, except that unlined tanks must not be used.

(5) Spec. 60 (§ 178.255 of this subchapter). Portable tanks, except that unlined tanks must not be used.

(6) Spec. 12B or 12C (§ 178.205 or § 178.206 of this subchapter). Fiberboard boxes with inside containers of polyethylene or other electrolyte acid resistant nonfragile materials having secure closures capable of withstanding conditions incident to transportation without leakage and unless containers are rigid or semi-rigid in nature they must be contained in other strong inside containers; minimum thickness of polyethylene or other materials shall be not less than 0.003 inch for any film sheet for multiwall containers or not less than 0.006 inch for single-wall containers; not more than 12 such inside containers shall be packed in one outside box and the marking prescribed in § 173.401(c) shall not be required. Inside containers shall be packed to prevent movement within the box (see §§ 178.205–34 and 178.206–19 of this subchapter). Dry storage batteries or battery charger device may be packed in the same outside box when adequately separated from other inside containers (see § 178.205–33 of this subchapter); gross weight of completed package shall not exceed 65 pounds, except when acid is packed in individual inside containers the gross weight shall be not over 75 pounds. Complete package, closed as for shipment, with inside containers filled with liquid of same specific gravity as commodity to be shipped, must be capable of withstanding at least 2 drops from a height of 4 feet onto solid concrete without leakage from or rupture of inside containers.

(7) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with inside containers of polyethylene, or other electrolyte acid resistant plastic, not over 1 gallon each.

(8) Specification 1EX (§ 178.6 of this subchapter). Carboys in plywood drums. Not authorized for transportation by air.

(9) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes constructed of at least 275-pound test (Mullen or Cady) double-wall corrugated fiberboard or 325-pound test (Mullen or Cady) doublefaced corrugated fiberboard, with not more than 12 inside glass bottles, having acid-proof closures, of not over 32 ounces capacity each. Inside glass bottles must be separatd and cushioned by suitable corrugated fiberboard partitions. The box must be equipped with top and bottom pads. (See § 178.205–32 of this subchapter.)

(10) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes having not more than 1 inside glass bottle, with acid-proof closure, not over 1 gallon capacity. Box shall be constructed of at least 350-pound test (Mullen or Cady) double-faced corrugated fiberboard of full depth telescope type. Cushioning and closure of box (pressure sensitive tape may be used) must be such that a representative box, with inside glass bottle filled with water, shall be capable of withstanding two drops from a height of 4 feet onto solid concrete without breakage of inner bottle or failure of the closure.

(11) Spec. 12A (§ 178.210 of this subchapter). Fiberboard boxes with inside glass bottles not over 1 gallon capacity each. Not more than 4 inside containers exceeding 5 pints capacity each shall be packed in the outside container. Shipper must have established that the completed package meets test requirements prescribed by § 178.210–10 of this subchapter.

(12) Specification 37P (§ 178.133 of this subchapter). Steel drums with polyethylene liner (non-reusable container). Not authorized for transportation by air.

(13) Spec. 6D or 37M (nonreusable container) (§ 178.102 or 178.134 of this subchapter). Cylindrical steel overpacks with inside spec. 2S (§ 178.35 of this subchapter) polyethylene container.

(14) Spec. 12B (§ 178.205 of this subchapter). Corrugated fiberboard boxes with plastic bags as defined in § 178.205–37 of this subchapter. Marking prescribed in § 173.401(c) shall not be required.

(b) Shipments of electrolyte (acid) or corrosive battery fluid with vehicles or engine driven equipment offered for transportation by, for, or to the Departments of the Army, Navy, or Air Force of the U.S. Government are exempt from Parts 171–179 and 397 of this title when packed as follows:

(1) In one inside glass or polyethylene bottle of not over 1-gallon capacity, tightly and securely closed in a strong outside container. Inside glass bottle shall be cushioned therein on all sides with incombustible absorbent material in sufficient quantity to absorb liquid contents in event of breakage. When shipped within or on a motor vehicle or with engines or other mechanical apparatus the outside container must be so blocked, braced, or stayed that it cannot change position during transit.

(c) Electrolyte acid or corrosive battery fluid contained in polyethylene containers not over 2 quarts capacity each and packaged not more than three containers in specification 15A, 15B, 15C, 16A, or 19A wooden boxes (§§ 178.168, 178.169, 178.170, 178.185, 178.190 of this subchapter), or packaged as prescribed in paragraph (a)(6) of this section, and bearing a corrosive label, may be securely attached to self-propelled vehicles or mobile agricultural machinery, or securely braced on a railcar floor.

(d) Strong, tightly closed metal drums not over 15 gallons capacity each, having not to exceed 25 eight-ounce polyethylene, or other suitable plastic bottles, securely cushioned therein. Shipments authorized only by, for, or to the Departments of the Army, Navy, or Air Force of the United States Government. The drum containing the electrolyte acid or corrosive battery fluid may be securely attached to another steel drum containing a dry, charged storage battery or batteries.

[29 FR 18725, Dec. 29, 1964, as amended by Order 66, 30 FR 5745, Apr. 23, 1965; Order 73, 32 FR 3456, Mar. 2, 1967. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–61, 37 FR 5948, Mar. 23, 1972; Amdt. 173–94, 41 FR 16076, Apr. 15, 1976]

§ 173.258 Electrolyte, acid, or alkaline corrosive battery fluid, packed with storage batteries.

(a) Electrolyte, acid, or alkaline corrosive battery fluid, packed with storage batteries, except as provided in § 173.257 (a)(6), must be packed in specification containers as follows:

(1) Spec. 15D or 16B (§§ 178.171 or 178.186 of this subchapter). Wooden boxes with inside containers of glass bottles not over 1 gallon each nor over 2 gallons total in each outside container. Inside containers must be well cushioned and separated from batteries by a strong solid wooden partition.

(2) Electrolyte, acid, or alkaline corrosive battery fluid included with storage batteries and filling kits may be packed in strong plywood or wooden boxes when shipments are made by, for, or to the Departments of the Army, Navy, or Air Force of the United States Government in outside containers of their specifications provided the electrolyte, acid, or alkaline corrosive battery fluid is packed in polyethylene bottles not over 32-ounce capacity each and not more than 24 bottles securely separated from storage batteries and kits may be shipped in one outside package.

(3) Specification 12B (§ 178.205 of this subchapter). Fiberboard boxes with not more than 12 inside packagings of polyethylene or other material resistant to the lading, not over 64-ounce capacity each. Polyethylene packagings that are not rigid or semi-rigid in nature must be contained in other strong inside packagings; minimum thickness of polyethylene or other plastic material may be not less than 0.003-inch for any film sheet for multi-wall packagings or not less than 0.006-inch for single-wall packagings. Inside packagings must be adequately separated from the storage battery. Authorized gross weight not over 56 pounds. (See § 178.205–33 of this subchapter.) Not authorized for transportation by air.

[29 FR 18725, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–94, 41 FR 16076, Apr. 15, 1976]

§ 173.259 Electrolyte, acid, or alkaline corrosive battery fluid, packed with battery charger, radio current supply device, or electronic equipment and actuating devices.

(a) Electrolyte, acid, or alkaline corrosive battery fluid packed with battery charger, radio current supply device or parts thereof, or electronic equipment and actuating devices, with only one device or outfit in each package, in the amount necessary for operation of the device or equipment, provided the containers of electrolyte, acid, or alkaline corrosive battery fluid, are adequately cushioned to prevent breakage, leakage, or damage to other articles packed therewith, must be packed in specification containers or as otherwise authorized herein, as follows:

(1) Spec. 15A, 15B, 15C, 16A, or 19A (§ 178.168, § 178.169, § 178.170, § 178.185, or § 178.190 of this subchapter). Wooden boxes, provided the liquid is in bottles securely closed and cushioned as prescribed in paragraph (a) of this section,

and separated from charger supply device, and parts, or electronic equipment by a strong solid wooden partition.

(2) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes, when the liquid is in a strong bottle not exceeding 16 fluid ounces, which must be securely closed and cushioned as prescribed in paragraph (a) of this section. Not more than 12 such packages may be packed under the provisions of § 173.25.

(3) Electrolyte, acid, or alkaline corrosive battery fluid, in separate inside acid or alkaline fluid resistant containers not over 5 gallons capacity each included with electronic equipment and actuating devices, are authorized in strong, tightly closed steel drums.

[29 FR 18725, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16076, Apr. 15, 1976]

§ 173.260 Electric storage batteries, wet.

(a) Electric storage batteries, containing electrolyte acid or alkaline corrosive battery fluid, must be completely protected so that short circuits will be prevented; they must not be packed with other articles except as provided in §§ 173.250 and 173.258, portable searchlights properly cushioned, battery parts, or hydrometers, securely packed in a separate container. The batteries either with or without other articles must be packed in specification containers as follows:

(1) Spec. 15D or 16B (§§ 178.171 or 178.186 of this subchapter). Wooden or wirebound wooden boxes except as provided in paragraphs (b) and (c) of this section.

(2) Spec. 12B (§ 178.205 of this subchapter). Fiberboard box as authorized by §§ 178.205-25(a), 178.205-28(a), and 178.205-35(a) of this subchapter.

(3) Electric storage batteries with case of asphaltum composition, impregnated rubber, steel case type, synthetic resin (plastic), or wooden battery box type, protected against short circuits and firmly secured to skids or pallets capable of withstanding the shocks normally incident to transportation, are exempt from specification packaging requirements for transportation by rail freight, highway, or water. The height of the completed unit must not exceed 1½ times the width of the skid or pallet. The unit must weigh not less than 300 pounds gross and must not fail under a superimposed weight equal to two times the weight of the unit or a superimposed weight of 4,000 pounds if the weight of the unit exceeds 2,000 pounds. Battery terminals must not be relied upon to support any part of the superimposed weight.

(4) Electric storage batteries weighing 500 pounds or more, with case of asphaltum composition, impregnated rubber, steel case type, synthetic resin (plastic), or wooden battery box type, consisting of carriers' equipment may be shipped by rail freight when mounted on suitable skids and protected against short circuits. Such shipments must not be offered in interchange.

(b) Electric storage batteries with case of asphaltum composition, impregnated rubber, steel case type, synthetic resin (plastic), or wooden battery box type; packing authorized as follows:

(1) One to three batteries not over 25 pounds each in outside box, gross weight not over 75 pounds; specification container not required.

(2) Not more than four batteries not over 15 pounds each may be packed in strong outside fiberboard or wooden boxes, when securely cushioned and packed to prevent short circuits; specification container not required. Authorized gross weight 65 pounds.

(3) Not more than five batteries not over 10 pounds each may be packed in strong outside fiberboard or wooden boxes, when securely cushioned and packed to prevent short circuits; specification container not required. Authorized gross weight 65 pounds.

(c) Single batteries not exceeding 75 pounds each, in addition to requirements of paragraphs (a) and (b) of this section, may be shipped in 5-sided slip covers or in completely closed fiberboard boxes, of solid or double-faced corrugated fiberboard complying with the following: (See par. (a) (1) of this section for more than one battery in an outside container.)

(1) Slip cover or fiberboard box must fit snugly and provide inside top clearance of at least ½ inch above battery terminals and filler caps with reinforcement in place. Assembled for shipment, the bottom edges of the slip cover may extend to the base of the battery but must not expose more than 1 inch thereof.

(2) Top of slip cover or fiberboard box design must comply with the following:

(i) Top of slip cover or fiberboard box must have interior reinforcement (insert or saddle) of fiberboard, wood, or other material of equal strength and rigidity so formed that any superimposed weight will bear only and directly downward on the top edges of the battery case or intercell connectors (straps), or plastic battery terminal covers designed to transmit any superimposed weight directly to the top inner wall of the battery case, or fiberboard boxes with chip board and chip board jute lined tubes which shall fit directly over the terminal posts and rest directly on battery cell covers.

(ii) Or be protected by a scored one piece cover-liner of 200-pound test (Mullen or Cady) double-faced corrugated fiberboard extending from the base of the battery on one side, across the top of the battery and to the base of the battery on the opposite side.

(iii) Or a five-sided slip cover having top of only one thickness of fiberboard, with lengthwise inner flaps roll folded to form a reinforcement of such height as to provide clearance required by subparagraph (1) of this paragraph which shall rest on the side edges of the battery. Outer end flaps to overlap approximately one inch and shall be butt folded and tucked into a center slot cut in the inner flaps. The requirements of subdivision (i) and (iv) of this subparagraph do not apply.

(iv) When top of slip cover or fiberboard box consists of only one thickness of material, reinforcement must have a plane surface of same interior dimensions and thickness. Reinforcement must be of such height as to provide minimum clearance required above and must be constructed to remain securely in place or be fastened to slip cover or fiberboard box.

(3) All fiberboard must be at least 200 pound test (Mullen) and completed package (battery and slip cover or fiberboard box) must be capable of withstanding top-to-bottom compression test of at least 500 pounds without damage to battery terminals, battery cell covers, and filler caps.

(d) Electric storage batteries, containing electrolyte or corrosive battery fluid, of the nonspillable type, must be protected against short circuits, and if completely and securely boxed are not subject to any other requirements of this subchapter.

(e) Electric storage batteries containing electrolyte or corrosive battery fluid are not subject to the requirements of this subchapter for carriage by highway or rail if:

(1) No other hazardous materials are transported in the same vehicle,

(2) The batteries are loaded or braced so as to prevent damage and short circuits in transit,

(3) Any other material loaded in the same vehicle is blocked, braced, or otherwise secured to prevent contact with or damage to the batteries, and

(4) The transport vehicle is carrying no material shipped by any person other than the shipper of the batteries.

(f) Electric storage batteries containing electrolyte or corrosive battery fluid, other than those of the nonspillable type, when shipped in less-than-carload and less-than-truckload lots, must be marked and labeled as prescribed in Part 172 of this subchapter.

(g) Electric storage batteries, containing electrolyte or corrosive battery fluid in a coil from which it is injected into the battery cells by a gas generator and initiator assembled with the battery, and which are nonspillable and leakproof, are exempt from Parts 170-189 of this title when approved by the Bureau of Explosives.

[29 FR 18725, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-54, 36 FR 18469, Sept. 15, 1971; Amdt. 173-94, 41 FR 16076, Apr. 15, 1976; Amdt. 173-94A, 41 FR 40682, Sept. 20, 1976]

§ 173.261 Fire-extinguisher charges.

(a) Fire-extinguisher charges consisting of sulfuric acid in glass inside containers securely closed may be packed with bicarbonate of soda in specification containers as follows:

(1) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with glass inside containers not over 5 pints each, cushioned.

(2) Spec. 21C (§ 178.224 of this subchapter). Fiber drums with a single inside container consisting of a glass bottle

not over 64 fluid ounces capacity filled with not over six pounds by weight of sulfuric acid (approximately 50 fluid ounces by volume). **Bottle must be suspended in center of outside container by means of adequate supports and surrounded by bicarbonate of soda in sufficient quantity to fill drum and neutralize contents in the event of breakage.**

(b) Limited quantities of fire-extinguisher charges as described in paragraphs (b) (1) through (3) of this section are excepted from labeling (except labeling is required for transportation by air) and the specification packaging requirements. In addition, shipments are not subject to Subpart F of Part 172 of this subchapter, to Part 174 of this subchapter except § 174.24 and to Part 177 of this subchapter, except § 177.817.

(1) Fire-extinguisher charges consisting of sulfuric acid in strong 8-fluid ounce or smaller bottles, securely closed and packed with bicarbonate of soda completely surrounding the bottles of acid in outside fiberboard or wooden boxes. Closure must consist of a metal cap lined with an acid-resistant washer or a composition stopper of material that will not be attacked by the acid.

(2) Fire-extinguisher charges, consisting of chlorosulfonic acid in a hermetically sealed bottle not exceeding 2 ounces capacity, securely packed in a metal container inclosed in another metal container, the inner metal container being cushioned in the outer metal container with asbestos fabric and the completed package embedded in potassium carbonate in outside fiberboard or wooden boxes.

(3) Fire-extinguisher charges, consisting of sulfuric acid in 10-ounce or smaller bottles, securely closed, packed in a tight fiber carton. Closure must consist of a metal cap lined with an acid-resistant washer or a composition stopper of material that will not be attacked by the acid. The bottle and carton packed in either potassium carbonate or potassium carbonate and alkali packed in a cylindrical tin can, with slip cover, secured by tape in outside fiberboard or wooden boxes.

[29 FR 18725, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–94, 41 FR 16076, Apr. 15, 1976; Amdt. 173–94A, 41 FR 40682, Sept. 20, 1976]

§ 173.262 Hydrobromic acid.

(a) Hydrobromic acid not over 49 percent strength must be packed in specification containers as follows:

(1) Specification 1A, 1C, 1D, or 1E (§§ 178.1, 178.3, 178.4, 178.7 of this subchapter). Carboys in boxes, kegs, or plywood drums. Not authorized for transportation by air.

(2) Spec. 1X (§ 178.5 of this subchapter). Boxed carboys; single-trip for export only. For shipment by common carriers by water to noncontiguous territories or possessions of the United States and foreign countries; shipments from inland points in the United States which are consigned to such destinations are authorized to be transported to ship side **by rail freight in carload lots only and by motor vehicle in truckload lots only.**

(3) [Reserved]

(4) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with inside containers which must be glass or earthenware, not over 1 gallon **each, except that inside containers up to 3 gallons are authorized when only one is packed in each outside container.**

(5) Spec. 43A (§ 178.18 of this subchapter). Rubber drums. Any such con**tainer showing evidence of damage must be tested to 20 pounds hydrostatic pressure, without leakage, before using.**

(6) Specification 103B,[1] 103BW, or 111A60W5 (§§ 179.200, 179.201 of this subchapter). Tank cars.

(7) Spec. 12A (§ 178.210 of this subchapter). Fiberboard boxes with inside glass bottles not over 5 pints capacity each. Not more than six 5-pint glass bottles may be packed in one outside container.
Shipper must have established that the completed package meets test requirements prescribed by § 178.210–10 of this subchapter.

(8) Specification 37P (§ 178.133 of this subchapter). Steel drum, not over 5 gallons capacity, with polyethylene liner (non-reusable container). A drum exceeding 1 gallon capacity must be constructed of at least 24 gauge metal. Not authorized for transportation by air.

(9) Spec. 22C (§ 178.198 of this subchapter). Plywood drum as prescribed by § 178.198–2(a) of this subchapter, with inside spec. 2T (§ 178.21 of this subchapter) polyethylene container.

(10) Spec. 6D (§ 178.102 of this subchapter). Cylindrical steel overpack with inside spec. 2S (§ 178.35 of this subchapter) polyethylene container.

(11) Specification MC 310, MC 311, or MC 312 (§ 178.343 of this subchapter). Tank motor vehicles, rubber-lined.

(b) Hydrobromic acid greater than 49 percent strength but not over 63 percent strength must be packed in specification containers as follows:

(1) Spec. 22C (§ 178.198 of this subchapter). Plywood drum as prescribed by § 178.198–2(a) of this subchapter, with spec. 2T (§ 178.21 of this subchapter) polyethylene container.

(2) Spec. 6D (§ 178.102 of this subchapter). Cylindrical steel overpack with inside spec. 2S (§ 178.35 of this subchapter) polyethylene container.

(3) Spec. 15A (§ 178.168 of this subchapter. Wooden box having only one polyethylene bottle, with screw-cap closure, not over one-gallon capacity.

(4) Specification MC 310, MC 311, or MC 312 (§ 178.343 of this subchapter). Tank motor vehicles, rubber-lined.

[29 FR 18725, Dec. 29, 1964, as amended by Order 73, 32 FR 3456, Mar. 2, 1967. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–80, 39 FR 15036, Apr. 30, 1974; Amdt. 173–81, 39 FR 17318, May 15, 1974; Amdt. 173–94, 41 FR 16076, Apr. 15, 1976]

§ 173.263 Hydrochloric (muriatic) acid; hydrochloric (muriatic) acid mixtures; hydrochloric (muriatic) acid solution, inhibited; sodium chlorite solution (not exceeding 42 percent sodium chlorite); and cleaning compounds, liquids, containing hydrocloric (muriatic) acid.

(a) Hydrochloric (muriatic) acid, hydrochloric (muriatic) acid mixtures, hydrochloric (muriatic) acid solution, inhibited, sodium chlorite solution not exceeding 42 percent sodium chlorite, and cleaning compounds, liquid, containing hydrochloric (muriatic) acid must be packed in specification containers as follows:

(1) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with inside containers which must be glass, earthenware, polyethylene or other nonfragile plastic material resistant to the lading (bags are not authorized), not over 1 gallon each, except that inside containers up to 3 gallons each are authorized when only one is packed in each outside container.

(2) Spec. 5D (§ 178.84 of this subchapter). **Rubber-lined metal barrels or drums. Any such container that shows evidence of damage must be tested, before shipment, for defect in lining in the manner prescribed in spec. 5D.**

(3) Spec. 43A (§ 178.18 of this subchapter). **Rubber drums.**

(4) [Reserved]

(5) Specification 1A, 1C, or 1K (§§ 178.1, 178.3, 178.14 of this subchapter). Carboys in boxes or kegs. Not authorized for transportation by air.

(6) Spec. 1X (§ 178.5 of this subchapter). Boxed carboys; single-trip for export only. For shipment by common carriers by water to noncontiguous territories or possessions of the United States and foreign countries; shipments from inland points in the United States which are consigned to such destinations are authorized to be transported to ship side by rail freight in carload lots only and by motor vehicle in truckload lots only.

(7) Specification 1D, 1E, or 1EX (single-trip) (§§ 178.4, 178.6, 178.7 of this subchapter). Glass carboys in boxes or plywood drums, of not over 6.5 gallon nominal capacity. Means must be provided so that accumulated total pressure in bottle may not exceed 10 p.s.i.g. at 130° F. (55° C.) or will vent at a pressure not to exceed 10 p.s.i.g. Not authorized for transportation by air.

(8) [Reserved]

(9) Specification 103B,[1] 103BW, or 111A60W5 (§§ 179.200, 179.201 of this subchapter). Tank cars. Authorized for acid not over 38 percent strength by weight. A safety vent of approved design equipped with frangible disc having ⅛-inch breather hole in center thereof or a safety vent of approved design equipped with carbon discs permitting continuous venting may be used, but may

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[1] The use of existing tanks authorized but new construction not authorized.

[1] The use of existing tanks authorized but new construction not authorized.

not be used for hydrochloric (muriatic) acid of 22° Baume strength, and other fuming acids.

(10) Specification MC 310, MC 311, or MC 312 (§ 178.343 of this subchapter). Tank motor vehicle lined with rubber or equally acid-resistant material of equivalent strength and durability. An unlined specification MC 311 or MC 312 tank motor vehicle made from Type 304L or 316 stainless steel is authorized for sodium chlorite solutions not exceeding 42 percent sodium chlorite only.

(11) Spec. 60 (§ 178.255 of this subchapter). Portable tanks, rubber-lined.

(12) Specification 103CW, 111A60W7 (§§ 179.200 and 179.201 of this subchapter). Tank cars having tanks of type 304L stainless steel. Authorized for sodium chlorite solution not exceeding 42 percent sodium chlorite only.

(13) Spec. 1H, 15P, or 22C (§§ 178.13, 178.182, or 178.198 of this subchapter). Metal crate with inside polyethylene carboy; or glued plywood or wooden box, or plywood drum as prescribed by § 178.-198-2(a) of this subchapter, with inside spec. 2T or spec. 2TL (§§ 178.21 or 178.27 of this subchapter) polyethylene container.

(14) Specifications 17H, 37A, or 37B (§§ 178.118, 178.131, 178.132, of this subchapter). Metal drums (single-trip) not over 5 gallons capacity each. Authorized only for 15 percent or less, inhibited hydrochloric (muriatic) acid solution. Drums must be lined throughout with a pliable plastic material impervious to the solution. Specifications 37A and 37B metal drums must be at least 24 gauge steel. Not authorized for transportation by air.

(15) Spec. 12A or 12B (§ 178.210 or § 178.205 of this subchapter). Fiberboard boxes with inside containers of polyethylene, or other nonfragile plastic material resistant to the lading (bags are not authorized), not over 1 gallon capacity each, suitably cushioned to prevent movement within the box. Gross weight of completed package must not exceed 65 pounds.

(16) Spec. 12A (§ 178.210 of this subchapter). Fiberboard boxes with inside glass bottles not over 5 pints capacity each. Not more than six 5-pint glass bottles may be packed in one outside container. Shipper must have established that the completed package meets test requirements prescribed by § 178.210–10 of this subchapter.

(17) Spec. 6D or 37M (nonreusable container) (§ 178.102 or 178.134 of this subchapter). Cylindrical steel overpacks with inside spec. 2S, 2SL, 2T or 2TL (§§ 178.35, 178.35a, 178.21 or 178.27 of this subchapter) polyethylene container.

(18) Specification 37p (§ 178.133 of this subchapter). Steel drums constructed of at least 24-gauge metal for drums exceeding 1 gallon capacity, with polyethylene liner (nonreusable container). Not authorized for transportation by air.

(19) Spec. 16D (§ 178.187 of this subchapter). Wirebound wooden overwrap, with inside spec. 2T, 2TL, 2S, or 2SL (§§ 178.21, 178.27, 178.35, or 178.35a of this subchapter) polyethylene container.

(20) [Reserved]

(21) Spec. 12C (§ 178.206 of this subchapter). Fiberboard boxes with inside 5-gallon nominal capacity polyethylene bottles having minimum wall thickness of 0.015 inch and constructed with screw-type closures. Authorized gross weight not over 65 pounds. (See § 178.206–19 of this subchapter.)

(22) Spec. 21P (§ 178.225 of this subchapter). Fiber drum overpack with inside spec. 2T, 2S, 2SL, or 2U (§§ 178.21, 178.35, 178.35a, or 178.24 of this subchapter) polyethylene container.

(23) Specification 12p (§ 178.211 of this subchapter). Fiberboard boxes with inside specification 2U (§ 178.24 of this subchapter) polyethylene containers not over 5 gallons capacity each. Wire staples are not authorized for assembly or closure of boxes, except when polyethylene container is completely enclosed in inside boxes free of wire staples or other projections that could cause failures. Not authorized for transportation by air.

(24) Specification 16A (§ 178.185 of this subchapter). Wirebound wooden box (§ 178.185–22 of this subchapter) with inside specification 2U (§ 178.24 of this subchapter) polyethylene container. The polyethylene container must be separated from the wooden box by a complete corrugated fiberboard liner and top and bottom pads. Not authorized for transportation by air.

(25) Spec. 22C (§ 178.198 of this subchapter). Plywood drum as prescribed by § 178.198–2(b), with inside spec. 2TL (§ 178.27 of this subchapter) polyethylene container not over 5 gallon nominal capacity.

(26) Spec. 33A (§ 178.150 of this subchapter). Polystrene cases (nonreusable container) with inside glass bottles not over 5 pints capacity each. Not more than four 5-pint bottles may be packed in one outside container.

(27) Specification 12R (§ 178.212 of this subchapter). Paper-faced expanded polystyrene board box with not more than six inside glass bottles or specification 2E (§ 178.24a of this subchapter) inside polyethylene bottles, not over 5 pints capacity each.

(28) Spec. 34 (§ 178.19 of this subchapter). Polyethylene container without overpack, not over 30-gallons capacity.

(29) Specification 12R (§ 178.212 of this subchapter). Paper-faced expanded polystyrene board box with not more than four specification 2E (§ 178.24a of this subchapter) inside polyethylene bottles, not over 1-gallon capacity each.

(b) Hydrochloric acid of not over 20 percent strength (13.25° Baumé) and other corrosive liquids containing not over 20 percent hydrochloric acid in addition to containers prescribed in paragraph (a) of this section may be shipped in specification containers as follows:

(1) [Reserved]

(2) Limited quantities of these materials in inside packaging of not more than 8 fluid ounces capacity each, packed in strong outside packagings, and cushioned with absorbent material in sufficient quantity to completely absorb liquid contents in the event of breakage, are excepted from labeling (except labeling is required for transportation by air) and the specification packaging requirements of this subchapter. In addition, shipments are not subject to Subpart F of Part 172 of this subchapter, to Part 174 of this subchapter except § 174.24 and to Part 177 of this subchapter, except § 177.817.

(c) When hydrochloric acid contains oils or solvents it must not be shipped in containers or tank cars lined with rubber.

(d) Hydrochloric acid mixtures of not over 28 percent strength, or cleaning compounds, liquid, containing not over 28 percent hydrochloric (muriatic) acid, in addition to the provisions of paragraphs (a) and (b) of this section, may be packed in specification containers as follows:

(1) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes constructed of at least 275-pound test (Mullen or Cady) double-wall corrugated fiberboard or 325-pound test (Mullen or Cady) double-faced corrugated fiberboard, with not more than 12 inside glass bottles, having acid-proof closures, of not over 32 ounces capacity each. Inside glass bottles must be separated and cushioned by suitable corrugated fiberboard partitions. The box must be equipped with top and bottom pads. (See § 178.205–32 of this subchapter.)

(2) Spec. 12A (§ 178.210 of this subchapter). Fiberboard boxes with inside glass bottles not over 1 gallon capacity each. Not more than 4 inside containers exceeding 5 pints capacity each shall be in the outside container. Shipper must have established that the completed package meets test requirements prescribed by § 178.210–10 of this subchapter.

[29 FR 18725, Dec. 29, 1964, as amended by Order 66, 30 FR 5745, Apr. 23, 1965; Order 67, 30 FR 7421, June 5, 1965; Order 71, 31 FR 9071, July 1, 1966; Order 73, 32 FR 3456, Mar. 2, 1967; Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–57, 36 FR 21288, Nov. 5, 1971; Amdt. 173–80, 39 FR 15036, Apr. 30, 1974; Amdt. 173–81, 39 FR 17319, May 15, 1974; Amdt. 173–94, 41 FR 16076, Apr. 15, 1976; Amdt. 173–94A, 41 FR 40682, Sept. 20, 1976]

§ 173.264 Hydrofluoric acid; White acid.

(a) Hydrofluoric acid and white acid (ammonium bifluoride and hydrochloric acid mixture), each must be packed in specification packaging as follows:

(1) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with inside containers of natural rubber, ceresine, lead, or other hydrofluoric acid resistant material. These containers are authorized only for strengths of acid for which they are adequate, but in no case may the strength of acid exceed 70 percent.

(2) Specification 12B (§ 178.205 of this subchapter). Fiberboard boxes with Specification 2E (§ 178.24a of this sub-

chapter) inside polyethylene bottles or inside receptacles of not over 1 pound capacity each, made of natural rubber, lead, or other hydrofluoric resistant plastic. Authorized only for acid not over 70 percent in strength.

(3) Spec. 16D (§ 178.187 of this subchapter). Wirebound wooden overwrap, with inside spec. 2T (§ 178.21 of this subchapter) polyethylene container. Authorized for hydrofluoric acid not over 70 percent strength.

(4) Specification 12A or 12B (§§ 178.210, 178.205 of this subchapter). Fiberboard boxes with not more than four Specification 2E (§ 178.24a of this subchapter) inside polyethylene bottles, having a minimum thickness of 0.030 inch and not over 1 gallon (nominal) capacity each. Bottle closures must be made secure by sealing with pressure-sensitive plastic tape or other equally efficient means. Authorized for acid not over 70 percent strength. Authorized gross weight for Specification 12B fiberboard boxes not over 65 pounds; Specification 12A not over 80 pounds.

(5) [Reserved]

(6) [Reserved]

(7) Spec. 5A (§ 178.81 of this subchapter). Unlined metal barrels or drums which have been subjected to adequate passivation or neutralization process (see Note 1). Authorized only for acid of not less than 60 percent and not more than 80 percent strength and all containers must be filled to not over 80 percent of capacity at 68° F. If containers are washed out with water, they must be repassivated before reshipment. (See Notes 1, 2, 3 and 5.)

NOTE 1: Each metal container, before being put into service must be passivated by an efficient method.

NOTE 2: Containers not exceeding 55 gallons capacity each are authorized for carload, truckload, less-than-carload, and less-than-truckload shipment. Containers exceeding 55 gallons capacity each are authorized for carload or truckload shipments only but they must be loaded by consignor and unloaded by consignee.

NOTE 3: For less-than-carload or less-than-truckload shipments, containers must be of metal at least as heavy as 14 gauge United States standard for not over 20 gallons capacity each or 12 gauge for not over 55 gallons capacity each. Each container must be subjected to at least one of the following tests before shipment: By interior pressure of at least 15 pounds per square inch before filling or by holding for inspection for at least 24 hours after filling. In either case, each container must be vented prior to shipment.

NOTE 4: [Reserved]

NOTE 5: Hydrofluoric acid solutions and concentrations of 60 percent up to 65 percent, when shipped in unlined steel containers, must be inhibited so that the corrosive effect on steel must not be greater than that of hydrofluoric acid of 65 percent concentration.

(8) Specification 103A,[1] 103AW, 105A100, 105A100W, 111A100F2, 111A60W2, 111A100W4, or ARA-IV[1] (§§ 179.100, 179.101, 179.200, 179.201 of this subchapter). Unlined metal tanks which have been subjected to adequate passivity or neutralization process. (See Note 1 to paragraph (a)(7) of this section.) Authorized only for hydrofluoric acid of 60 to 80 percent strength. If tanks are washed out with water they must be resubjected to passivity before reshipment.

(i) Hydrofluoric acid solutions and concentrations of 60 percent up to 65 percent when shipped in unlined metal tank cars must be inhibited so that the corrosive effect on steel must not be greater than that of hydrofluoric acid of 65 percent concentration.

(ii) Each tank car must be marked "HYDROFLUORIC ACID" in accordance with the requirements of § 172.330 of this subchapter.

(9) Spec. 43A (§ 178.18 of this subchapter). Rubber drums. Authorized only for acid not over 65 percent strength. Any such container showing evidence of damage must be tested to 20 pounds hydrostatic pressure, without leakage, before using.

(10) Spec. 5D (§ 178.84 of this subchapter). Lined metal barrels or drums. Authorized only for acid not over 62 percent strength. Any barrel or drum that shows evidence of damage must be tested before shipment for defects in lining in the manner prescribed in § 178.84-15(a) of this subchapter. Lining materials must meet the test prescribed in Notes 1, 2, and 3 below.

NOTE 1: Performance test. Test panels of linings for drums in hydrofluoric acid service must be subjected to a test in 62 percent hydrofluoric acid for a period of not less than 90 days. At the end of such period there must be no signs of deterioration of such lining material from chemical attack as evidenced by changes in its physical characteristics, and no signs of permeation of hydrofluoric acid through the sample as evidenced by blistering from the metal insert.

NOTE 2: Method of test. The test panel should be at least 2 inches by 6 inches with a steel insert completely covered by lining material. Test panels should be immersed in 62 percent hydrofluoric acid so that 50 percent of the panel is in contact with liquid and 50 percent in contact with vapor. Temperature of test to be maintained at 130° F. for the entire 90 days.

NOTE 3: Drums must be lined with material at least as thick as the sample material tested.

(11) Specification 103B,[1] 103BW, or 111A60W5 (§§ 179.200, 179.201 of this subchapter). Tank cars, rubber-lined tanks. Authorized only for acid not over 40 percent strength.

(12) [Reserved]

(13) [Reserved]

(14) Specification MC 310, MC 311, or MC 312 (§ 178.343 of this subchapter). Tank motor vehicles.

NOTE 1: Hydrofluoric acid solutions and concentrations of 60 percent up to 65 percent, when shipped in unlined tank motor vehicles, must be inhibited so that the corrosive effect on steel must not be greater than that of hydrofluoric acid of 65 percent concentration.

(15) [Reserved]

(16) Spec. 15P or 22C (§§ 178.182 or 178.198 of this subchapter). Glued plywood or wooden box, or plywood drum as prescribed by § 178.198-2(a) of this subchapter, with inside spec. 2T (§ 178.21 of this subchapter) polyethylene container. Authorized for acid not over 70 percent strength.

(17) Specification 6D (§ 178.102 of this subchapter) or 37M (nonreuseable) (§ 178.134 of this subchapter) cylindrical steel overpacks with inside specifications 2S, 2SL, or 2T (§§ 178.35, 178.35a, 178.21 of this subchapter) polyethylene liners. Specification 37M overpack of over 15-gallon capacity must be constructed of at least 20-gauge steel. Authorized only for acid of not over 70 percent strength.

(18) [Reserved]

(19) Spec. 12P (§ 178.211 of this subchapter). Fiberboard boxes with one inside spec. 2TL (§ 178.27 of this subchapter) polyethylene bottle with screw-cap closure and having minimum wall thickness of 0.015 inch, not over 5 gallons capacity each. Wire staples are not authorized for assembly or closure of boxes when any such staple is in direct contact with the inside plastic container. Authorized only for acid of 48 to 52 percent strength.

(b) Hydrofluoric acid, anhydrous (hydrogen fluoride) must be shipped in specification containers as follows:

(1) Spec. 3,[2] 3A, 3AA, 3B, 3C, 3E, 4, 4A, 25,[2] or 38[2] (§ 178.36, 178.37, 178.38, 178.40, 178.42, 178.48 or 178.49 of this subchapter); also spec. 4B, 4BA, or 4C (§ 178.50, 178.51 or 178.52 of this subchapter) if not brazed. Cylinders. Filling density must not exceed 85 percent of the pounds water weight capacity of the cylinder. Cylinders used exclusively in this service may, in lieu of the periodic hydrostatic retest required by § 173.34(e), be given a complete external visual inspection at the time such periodic retest becomes due. Such inspections shall be made only by competent persons and shall be made on cylinders cleaned to bare metal and results recorded on a suitable data sheet, completed copies of which shall be kept as prescribed in § 173.34(e)(5). Points to be checked and recorded on these data sheets are: Date of inspection (month and year; DOT specification number; cylinder identification (registered symbol and serial number, date of manufacture, and if needed for adequate identification, ownership symbol); tare weight; physical condition (record specifically, if present; leakage, corrosion, gouges, dents or digs in shell or heads, broken or damaged footring or protective ring or fire damage); disposition of cylinders (returned to service, to cylinder manufacturer for repairs, or scrapped). A cylinder which passes the inspection prescribed shall have the data recorded in the manner presently prescribed for the recording of the retest date except that an "E" is to follow the date (month and year) indicating requalification by the external inspection method. Cylinders removed from this service for any reason must be rendered unfit for any other regulatory service (see § 173.28(l)).

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[1] The use of existing tanks authorized but new construction not authorized.

[1] Use of existing tank cars authorized, but new construction not authorized.

[2] Use of existing cylinders authorized, but new construction not authorized.

(2) Specification 105A300W, 112A400W, 114A400W, or ARA-V[1] (§§ 179.100, 179.101 of this subchapter). Tank cars equipped with special valves and appurtenances approved for this particular service. Filling density must not exceed 90 percent of the pounds water weight capacity of the tank. For Specification 114A400W tanks, valves and fittings must be located on top of the tank. Bottom openings in tank prohibited.

(i) Each tank car must be marked "HYDROGEN FLUORIDE" in accordance with the requirements of § 172.330 of this subchapter.

(3) Specification MC 310, MC 311, or MC 312 (§ 178.343 of this subchapter). Tank motor vehicles.

(4) Spec. 51 (§ 178.245 of this subchapter). Portable tanks.

(5) [Reserved]

(6) Specification 106A500X or 110A500W (§§ 179.300, 179.301 of this subchapter) tanks. Tanks may not be equipped with safety devices of any type and valves must be protected by metal caps. Tanks may not be filled to a density in excess of 85 percent of the water weight capacity of the tank. (See § 177.834(m) of this subchapter for special requirements for highway shipments.)

(c) Containers must not be entirely filled. Unless otherwise provided in this part, sufficient outage (vacant space) must be allowed so that the liquid portion will not completely fill the container at 130° F. in order to prevent leakage or distortion of containers due to the expansion of the contents from increase in temperature during transit.

[29 FR 18725, Dec. 29, 1964, as amended by Order 66, 30 FR 5746, Apr. 23, 1965; Order 73, 32 FR 3456, Mar. 2, 1967. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-11, 34 FR 12591, Aug. 1, 1969; Amdt. 173-12, 34 FR 13872, Aug. 29, 1969; Amdt. 173-59, 36 FR 21344, Nov. 6, 1971; Amdt. 173-80, 39 FR 15036, Apr. 30, 1974; Amdt. 173-86, 39 FR 37062, Oct. 17, 1974; Amdt. 173-94, 41 FR 16077, Apr. 15, 1976; Amdt. 173-94A, 41 FR 40682, Sept. 20, 1976]

§ 173.265 Hydrofluosilicic acid.

(a) Hydrofluosilicic acid must be packed in specification containers as follows:

(1) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with inside containers of natural rubber, ceresine, or other material of equal efficiency resistant to hydrofluosilicic acid.

(2) [Reserved]

(3) [Reserved]

(4) Specification 16A (§ 178.185 of this subchapter). Wirebound wooden box (§ 178.185-22 of this subchapter) with inside specification 2U (§ 178.24 of this subchapter) polyethylene container. The polyethylene container must be separated from the wooden box by a complete corrugated fiberboard liner and top and bottom pads. Not authorized for transportation by air.

(b) Hydrofluosilicic acid of not exceeding 40 percent strength may also be shipped when packed in specification containers as follows:

(1) Spec. 5D (§ 178.84 of this subchapter). Rubber-lined metal barrels or drums. Any barrel or drum that shows evidence of damage must be tested before shipment for defect in lining in the manner prescribed in spec. 5D.

(2) Spec. 43A (§ 178.18 of this subchapter). Rubber drums. Any drug showing evidence of damage must be tested to 20 pounds hydrostatic pressure, without leakage, before using.

(3) Specification 103B,[1] 103BW, or 111A60W5 (§§ 179.200, 179.201 of this subchapter). Tank cars, rubber-lined tanks.

(4) Specification MC 310, MC 311, or MC 312 (§ 178.343 of this subchapter). Tank motor vehicles, lined with rubber.

(c) Hydrofluosilicic acid containing no free hydrofluoric acid or other ingredient that will attack glass, may also be shipped when packed in specification containers as follows:

(1) Specification 1A, 1C, 1D, or 1E (§§ 178.1, 178.3, 178.4, 178.7 of this subchapter). Carboys in boxes, in kegs, or plywood drums, for which the use of rubber stoppers and gaskets is also authorized. Not authorized for transportation by air.

(2) Spec. 1X (§ 178.5 of this subchapter). Boxed carboys; single-trip for export only. For shipment by common carriers by water to noncontiguous territories or possessions of the United States and foreign countries; shipments from inland points in the United States which are consigned to such destinations are authorized to be transported to ship side by rail freight in carload lots only and by motor vehicle in truckload lots only.

(3) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with inside glass containers, not over 1 gallon each, with rubber or ground-in glass stoppers properly secured.

(4) The vacant space in containers of these acids must be sufficient so that when raised to a uniform temperature of 130° F. the vapor pressure shall not exceed 6 pounds per square inch.

(d) Hydrofluosilicic acid of not exceeding 32 percent strength may also be shipped when packed in specification containers as follows:

(1) Specification 12B (§ 178.205 of this subchapter). Fiberboard boxes with Specification 2E (§ 178.24a of this subchapter) inside polyethylene bottles or other plastic material resistant to the lading, not over 1-quart capacity each, suitably cushioned to prevent movement within the box. Gross weight of complete package must not exceed 65 pounds.

(2) Spec. 15P or 22C (§§ 178.182 or 178.198 of this subchapter). Glued plywood or wooden box, or plywood drum as prescribed by § 178.198-2(a) of this subchapter, with inside spec. 2T (§ 178.21 of this subchapter) polyethylene container.

(3) Spec. 6D or 37M (nonreusable container) (§ 178.102 or 178.134 of this subchapter). Cylindrical steel overpacks with inside spec. 2S or 2SL (§ 178.35 or 178.35a of this subchapter) polyethylene container. Spec. 37M overpack shall be constructed of at least 20-gauge steel and steel and shall not exceed 16 gallons capacity each.

(4) Specification 37P (§ 178.133 of this subchapter). Steel drums, not over 5-gallons capacity, with polyethylene liner (non-reusable container). Not authorized for transportation by air.

(5) Spec. 21P (§ 178.225 of this subchapter). Fiber drum overpack with inside spec. 2S, 2SL or 2U (§§ 178.35, 178.35a, or 178.24 of this subchapter) polyethylene container.

(6) Specification 34 (§ 178.19 of this subchapter). Polyethylene container without overpack, not over 30-gallon capacity.

[29 FR 18725, Dec. 29, 1964, as amended by Order 71, 31 FR 9071, July 1, 1966; Order 73 32 FR 3456, Mar. 2, 1967. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-11, 34 FR 12591, Aug. 1, 1969; Amdt. 173-80, 39 FR 15036, Apr. 30, 1974; Amdt. 173-81, 39 FR 17319, May 15, 1974; Amdt. 173-94, 41 FR 16077, Apr. 15, 1976]

§ 173.266 Hydrogen peroxide solution in water.

(a) Hydrogen peroxide solution in water containing over 52 percent hydrogen peroxide by weight must be packed in specification containers as follows:

(1) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185 or 178.190 of this subchapter). Wooden boxes with inside containers consisting of glass bottles not over 1 quart capacity each; bottles must have vented closure and must be packed in a metal container **vented at bottom packed in another metal container vented at top; cushioning material shall be used between glass bottle and inner container and between inner and outer metal containers; cushioning material shall be vermiculite or equivalent in an amount at least 10 times the volume of the solution shipped and shall be wet with at least 10 percent water by volume to which has been added a stabilizing agent.**

(2) Spec. 42D (§ 178.109 of this subchapter). Aluminum drums with vented **closure in top head; not over 30 gallons capacity; side openings not permitted. Top head must be plainly marked "Keep This End Up" or "Keep Plug Up To Prevent Spillage."**

(b) Hydrogen peroxide solution in water containing 52 percent or less hydrogen peroxide by weight must be packaged as prescribed in paragraph (a) of this section or as follows (vented packagings are not permitted aboard aircraft):

(1) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.170, 178.185, 178.190 of this subchapter). Wooden boxes with glass or earthenware inside containers of not more than 1 gallon capacity each. **Inside containers must be well cushioned. All material used for cushioning must be**

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[1] The use of existing tanks authorized but new construction not authorized.

[1] The use of existing tanks authorized but new construction not authorized.

noncombustible mineral matter, such as whiting, mineral wool, infusorial earth, asbestos, or sifted ashes. Cushioning of inside containers in outside wooden boxes by means of elastic packing, such as wooden strips or large corks fastened securely in position, is authorized if the completed package will pass the swing test prescribed for boxed carboys in spec. 1A (§ 178.1 of this subchapter).

(2) Spec. 34B (§ 178.12 of this subchapter). Aluminum carboys.

(3) Spec. 42D (§ 178.109 of this subchapter). Aluminum drums with vented closure in top head; not over 55 gallons capacity. Top heads must be plainly marked "Keep This End Up" or "Keep Plug Up To Prevent Spillage."

(4) Spec. 42E (§ 178.136 of this subchapter). Aluminum drums (single-trip).

(5) Specification 12B (§ 178.205 of this subchapter). Fiberboard boxes with Specification 2E (§ 178.24a of this subchapter) inside polyethylene bottles having vented screw-cap closures not over 16-ounce capacity each. Each bottle must be completely contained in a securely closed polyethylene bag or tube constructed of material having minimum film thickness of 0.004 inch. Bottles must be separated from each other by use of fiberboard partitions or other suitable cushioning material. Not more than 12 bottles may be packaged in one box.

(6) Spec. 6D or 37M (nonreusable container) (§ 178.102 or § 178.134 of this subchapter). Cylindrical steel overpacks with inside spec. 2S or 2SL (§ 178.35 or § 178.35a of this subchapter) polyethylene container. The closure must be located in one head and must be vented to prevent accumulation of internal pressure and head plainly marked "KEEP THIS END UP" or "KEEP PLUG UP TO PREVENT SPILLAGE."

(7) Spec. 21P (§ 178.225 of this subchapter). Fiber drum over pack with inside spec. 2SL (§ 178.35a of this subchapter) polyethylene container, not over 30 gallons capacity, or spec. 2U (§ 178.24 of this subchapter) polyethylene container not over 15 gallons capacity. The closures of the inside 2SL and 2U container must be vented to prevent accumulation of internal pressure and the head with the closure must be marked "KEEP THIS END UP" or "KEEP PLUG UP TO PREVENT SPILLAGE."

(8) Specification 34 (§ 178.19 of this subchapter). Polyethylene container without overpack, not over 30-gallon capacity. A closure of each container must be vented to prevent accumulation of internal pressure and the head with the closure must be marked "KEEP THIS END UP."

(c) Hydrogen peroxide solution in water containing over 8 percent hydrogen peroxide by weight and not exceeding 37 percent must be packaged as prescribed in paragraph (a) or (b) of this section or as follows (vented packagings are not permitted aboard aircraft):

(1) Specification 1A (§ 178.1 of this subchapter). Glass carboys. The cushioning must be non-combustible mineral material, elastic wooden-strip packing, or large elastic cushions such as corks fastened securely in position. The use of hay, excelsior, ground cork, or similar material, whether treated or untreated, is prohibited. The carboy stoppers must be vented so as to prevent accumulation of internal pressure; use of cork gasket impregnated with paraffin is authorized. Not authorized for transportation by air.

(2) Spec. 1X (§ 178.5 of this subchapter). Boxed carboys; single-trip for export only. For shipment by common carriers by water to noncontiguous territories or possessions of the United States and foreign countries; shipments from inland points in the United States which are consigned to such destinations are authorized to be transported to ship side by rail freight in carload lots only and by motor vehicle in truckload lots only.

(3) Specification 1D or 1E (§ 178.4, 178.7 of this subchapter). Glass carboys in boxes or plywood drums of not over 6.5 gallons nominal capacity. Means must be provided so that accumulated pressure in bottle may not exceed 10 pounds p.s.i.g. at 130° F. or will vent at a pressure not to exceed 10 pounds p.s.i.g. The cushioning must be non-combustible mineral material, elastic wooden-strip packaging, or large elastic cushions such as corks fastened securely in position. The use of hay, excelsior, ground cork, or similar material, whether treated or untreated, is prohibited. Not authorized for transportation by air.

(4) Spec. 15A, 15B, 15C, 16A, or 19A (§ 178.168 § 178.169, § 178.170, § 178.185, or § 178.190 of this subchapter). Wooden boxes with inside containers of polyethylene, or other plastic material resistant to the lading, not over 1 pint capacity or 16 ounces by weight each. Inside containers must be securely cushioned with incombustible mineral matter, such as whiting, mineral wool, infusorial earth, asbestos, or sifted ashes.

(5) Spec. 1H, 15P, or 22C (§§ 178.13, 178.182 or 178.198 of this subchapter). Metal crate with inside polyethylene carboy; or glued plywood or wooden box, or plywood drum as prescribed by § 178.198-2(a) of this subchapter, with inside spec. 2T (§ 178.21 of this subchapter) polyethylene container.

(6) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes, with inside aluminum bottles constructed of at least 99 percent pure aluminum of not over 5 pounds or 5 pints capacity each. Each bottle shall be individually partitioned and surrounded by incombustible mineral packing material in the outside shipping container. Bottle closure shall be by means of a threaded aluminum cap, fitted with polyethylene gasket or other equally efficient closing device. A venting device which will not leak liquid under conditions normally incident to transportation is permitted.

(7) [Reserved]

(8) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with inside polyethylene bottles not over 1 gallon capacity each with vented closures; such bottles over 32 ounces capacity each must be completely contained in a securely closed polyethylene bag or tube constructed of material having minimum film thickness of 0.003 inch. Alkaline solutions containing sodium hydroxide or other alkaline materials packed in glass or polyethylene bottles not over 1 gallon capacity each and with hydrogen peroxide solution contained in polyethylene bottles not over 1 gallon capacity each, when shipped as a wood bleach preparation, may be packed together in inside chipboard or corrugated fiberboard boxes or separated by corrugated fiberboard partitions; not more than six inside chipboard or corrugated fiberboard boxes having inside bottles not over 32 ounces each, or more than 4 one gallon bottles separated by corrugated fiberboard partitions may be packed in one outside box; completed package with mixed contents must be capable of withstanding a drop from a height of four feet onto solid concrete without failure of any inside container.

(9) Spec. 12A (§ 178.210 of this subchapter). Fiberboard boxes with inside glass or polyethylene bottles, not over 1-gallon capacity each. Each bottle closure must be vented and each bottle completely contained in a securely closed polyethylene bag or tube constructed of material having minimum film thickness of 0.003 inch. Shipper must have established that completed package meets test requirements prescribed by § 178.210-10 of this subchapter.

(10) Spec. 16D (§ 178.187 of this subchapter). Wirebound wooden overwrap, with inside spec. 2T or 2TL (§§ 178.21 or 178.27 of this subchapter) polyethylene container.

(d) Hydrogen peroxide solution in water containing over 8 percent hydrogen peroxide by weight and not exceeding 10 percent must be packaged as prescribed in paragraph (a), (b), or (c) of this section or as follows (vented packagings are not permitted aboard aircraft):

(e) Hydrogen peroxide solution in water not exceeding 52 percent hydrogen peroxide by weight, when shipped in tank cars, tank motor vehicles, or portable tanks in carload or truckload quantities only, is not subject to any other requirement of Parts 170-189 and 397 of this title.

(f) Hydrogen peroxide solution in water exceeding 52 percent hydrogen peroxide by weight may also be packed in specification containers as follows:

(1) Specification 103A-ALW or 111A-60ALW2 (§§ 179.200, 179.201 of this subchapter). Tank cars. Venting arrangements must be approved by the Department.

(i) Each tank car must be marked "HYDROGEN PEROXIDE" in accordance with the requirements of § 172.330 of this subchapter.

(2) Specification MC 310 or MC 312 (§ 178.343 of this subchapter). Tank motor vehicles. Tanks shall be welded construction of aluminum complying with Aluminum Association Nos. 1060, 1260, 5254, or 5652, and having a minimum wall thickness of one-half inch. They must be built to a design working pressure of not less than 40 p.s.i.g. and

shall be designed so that internal surfaces may be effectively cleaned and passivated. All openings in the tank shall be located on top of tank. All valves and safety devices shall be provided with overturn protection and dust covers. The tank metal identification plate required shall be marked "DOT MC 310–H_2O_2" or "DOT MC 312–AL–H_2O_2," as appropriate, and, in addition, the vehicle shall be clearly marked in letters not less than one inch high "FOR HYDROGEN PEROXIDE ONLY." Designs for venting and pressure relief devices must be approved by the Bureau of Explosives.

[29 FR 18725 Dec. 29, 1964, as amended by Order 71, 31 FR 9071, July 1, 1966; 31 FR 9676, July 16, 1966; Order 73, 32 FR 3456, Mar. 2, 1967. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–11, 34 FR 12591, Aug. 1, 1969; Amdt. 173–80, 39 FR 15036, Apr. 30, 1974; Amdt. 173–81, 39 FR 17319, May 15, 1974; Amdt. 173–94, 41 FR 16077, Apr. 15, 1976; Amdt. 173–94A, 41 FR 40682, Sept. 20, 1976]

§ 173.267 Mixed acid (nitric and sulfuric acid) (nitrating acid).

(a) Mixed acid (nitric and sulfuric acid) (nitrating acid), when offered for transportation by carriers by rail freight, highway, or water must be packed in specification containers as follows:

(1) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with inside glass bottles not over 7 pounds capacity each, individually inclosed in tightly closed metal cans and cushioned therein with incombustible mineral material.

(2) Spec. 5C (§ 178.83 of this subchapter). Metal barrels or drums of Type 304 ELC or 347 stainless steel only. (See paragraph (b) of this section.)

(3) Specification 103A,[1] 103AW, 111A-60W2, or 111A100F2 (§§ 179.200, 179.201 of this subchapter). Tank cars. (See paragraph (b) of this section.)

(4) Spec. 1A or 1C (§§ 178.1 or 178.3 of this subchapter). Carboys in boxes or kegs. Authorized only for mixed nitric and sulfuric acid containing not over 17 percent nitric acid and containing at least 33 percent water. Straight-sided carboys must be used; cushioning must be incombustible mineral material, elastic wooden-strip packing, or large elastic cushions, such as cork, fastened securely in position. The use of hay, excelsior, ground cork, or similar material, whether treated or untreated, is prohibited.

(5) Spec. 1X (§ 178.5 of this subchapter). Boxed carboys; single-trip for export only. For shipment by common carriers by water to noncontiguous territories or possessions of the United States and foreign countries; shipments from inland points in the United States which are consigned to such destinations are authorized to be transported to ship side by rail freight in carload lots only and by motor vehicle in truckload lots only.

(6) Spec. 1D, or 1E (§ 178.4, or § 178.7 of this subchapter). Glass carboys in boxes or plywood drums of not over 6.5 gallons nominal capacity; authorized only for mixed nitric and sulfuric acid, containing not over 17 percent nitric acid and containing at least 33 percent water; means shall be provided so that accumulated pressure in bottle shall not exceed 10 pounds per square inch gauge at 130° F., or vent at pressure not to exceed 10 pounds per square inch gauge. Cushioning must be incombustible mineral material, elastic wooden strip packing, or large elastic cushions such as cork fastened securely in position. The use of hay, excelsior, ground cork, or similar material, whether treated or untreated, is prohibited.

(7) Specifications MC 310, MC 311, or MC 312 (§ 178.343 of this subchapter). Tank motor vehicles. (See paragraph (b) of this section.)

(8) Spec. 60 (§ 178.255 of this subchapter). Portable tanks. (See paragraph (b) of this section.)

(9) Spec. 5A (§ 178.81 of this subchapter). Carbon steel barrels or drums. Authorized only for mixed acids containing less than 80 percent nitric acid. (See paragraph (b) of this section.)

(b) Mixtures of sulfuric acid and nitric acid (nitrating acid), shipped in tank cars, cargo tanks, tank trucks, or metal barrels or drums, shall contain not less than 10 percent sulfuric acid. These mixtures may contain:

(1) Up to 10 percent water with not less than 10 percent sulfuric acid.

(2) Up to 15 percent water with not less than 15 percent sulfuric acid.

(3) Up to 20 percent water with not less than 20 percent sulfuric acid.

(4) Up to 38 percent water with not less than 62 percent sulfuric acid.

(c) Mixed acid (nitric and sulfuric acid) (nitrating acid), when offered for transportation by air must be packaged as follows:

(1) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with inside glass bottles with glass stoppers ground to fit, and these stoppers must be held in place by plaster of Paris covered by strong cloth securely tied. Glass bottles having necks with molded screw threads, must be closed by threaded-type acid-resistant plastic caps. Caps must be equipped with an elastic composition cushion and with glass, porcelain or similar liner which must be impervious to the acid. Such caps, when secured in place by at least one complete continuous thread, must be capable of preventing any leakage of the liquid.

(2) Or glass bottles having necks with molded screw threads must be closed by threaded-type acid-resistant caps. Caps must be lined with a resilient liner which must be impervious to the acid. Such caps, when secured in place by at least one complete continuous thread, must be capable of preventing any leakage of the acid.

(3) Each bottle must be placed in a tightly closed metal container and well cushioned therein on all sides with incombustible mineral packing material, such as whiting, mineral wool, infusorial earth (kieselguhr), asbestos, sifted ashes, or powdered china clay, etc. The metal container must be packed in the outside container, and well cushioned by incombustible mineral packing material as herein described.

(4) Not more than 1 quart of mixed acid may be shipped in one outside packaging.

[29 FR 18725, Dec. 29, 1964, as amended by Order 73, 32 FR 3456, Mar. 2, 1967. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–80, 39 FR 15036, Apr. 30, 1974; Amdt. 173–94, 41 FR 16077, Apr. 15, 1976]

§ 173.268 Nitric acid.

(a) Nitric acid exceeding 40 percent concentration in any quantity must not be packed with any other article.

(1) Each tank car must be marked "NITRIC ACID" in accordance with the requirements of § 172.330 of this subchapter.

(b) Nitric acid in any concentration which does not contain significant quantities of sulfuric acid or hydrochloric acid as impurities, when offered for transportation by carriers by rail freight, highway, or water must be packed in specification containers as follows:

(1) Specification 103CW or 111A60W7 (§§ 179.200, 179.201 of this subchapter). Tank cars.

(2) The use of spec. 103C–AL special aluminum alloy tank cars is authorized for the transportation of 95 percent or greater nitric acid as provided in special orders of November 14, 1939, June 7, 1940, and August 19, 1941.

(3) Specifications MC 310, MC 311, or MC 312 (§ 178.343 of this subchapter). Tank motor vehicles.

(4) Specification 5C (§ 178.83 of this subchapter). Metal barrels or drums. Authorized for concentrations of nitric acid as limited by § 178.83–3(c) of this subchapter. Containers weighing less than 85 percent of their original marked weight are not authorized.

(5) Containers as specified in paragraphs (c), (d), (e), and (f), and within percentage limitations of this section.

(c) Nitric acid of 80 percent or greater concentration which does not contain significant quantities of sulfuric acid or hydrochloric acid as impurities, when offered for transportation by carriers by rail freight, highway, or water, in addition to and within limitations of paragraphs (b), (d), and (e) of this section, may be packed in specification containers as follows:

(1) Spec. 42B or 5X (§§ 178.107, or 178.91 of this subchapter); also 42,[1] if made and marked prior to October 1, 1930. Aluminum drums, or aluminum-lined steel drums.

(2) Specification 103A–ALW or 111A-60ALW2 (§§ 179.200, 179.201 of this subchapter). Tank cars.

(d) Nitric acid of 90 percent or greater concentration, when offered for transportation by carriers by rail freight, highway, or water, in addition to and within limitations of paragraphs (b) and

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[1] The use of existing tanks authorized but new construction not authorized.

[1] Use of existing drums authorized, but new construction not authorized.

(c) of this section, may be packed in specification containers as follows:

(1) Specification 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, 178.190 of this subchapter). Wooden boxes with inside containers which must be glass bottles not over 5 pints capacity each, individually enclosed in tightly closed metal cans and cushioned therein with sufficient incombustible mineral material. (See paragraphs (g) and (h) of this section.)

(2) Specification 105A100-AL-W (§§ 179.100 and 179.201 of this subchapter). Tank cars. Tanks must be fabricated of aluminum alloy which is compatible with the lading, and must be equipped with safety relief valves made of material which is not adversely affected by the lading.

(e) Nitric acid of concentration of less than 90 percent, when offered for transportation by carriers by rail freight, highway, or water, in addition to and within limitations of paragraphs (b), (c), and (f) of this section, may be packed in specification containers as follows:

(1) Specification 15A, 15B, 15C, 16A, or 19A (§§)178.168, 178.169, 178.170, 178.185, 178.190 of this subchapter). Wooden boxes with inside containers which must be glass bottles not over 5 pints capacity each. (See paragraphs (g) and (h) of this section.)

(f) Nitric acid of concentration of 72 percent or less, when offered for transportation by carriers by rail freight, highway, or water, in addition to and within limitations of paragraphs (b) and (e) of this section, may be packed in specification containers as follows:

(1) Spec. 1A, 1C, or 1K (§§ 178.1, 178.3, or 178.14 of this subchapter). Straight sided carboys in boxes or kegs.

(2) Spec. 1X (§ 178.5 of this subchapter). Boxed carboys; single-trip for export only. For shipment by common carriers by water to noncontiguous territories or possessions of the United States and foreign countries; shipments from inland points in the United States which are consigned to such destinations are authorized to be transported to ship side by rail freight in carload lots only and by motor vehicle in truckload lots only.

(3) Spec. 1D, or 1E (§ 178.4, or § 178.7 of this subchapter). Glass carboys in boxes or plywood drums of not over 6.5 gallons nominal capacity. Means shall be provided so that accumulated pressure in bottle shall not exceed 10 pounds per square inch gauge at 130° F., or shall vent at a pressure not to exceed 10 pounds per square inch gauge.

(4) Cushioning for carboys must be incombustible mineral material, elastic wooden strips, natural cork blocks or rubber blocks. Other materials may be used if approved by the Bureau of Explosives. The use of hay, excelsior, loose ground cork, or similar materials, whether treated or untreated, is prohibited.

(5) Spec. 60 (§ 178.255 of this subchapter). Portable tanks, glass-lined.

(6) Spec. 33A (§ 178.150 of this subchapter). Polystyrene cases (nonreusable container) with inside glass bottles not over 5 pints capacity each. Not more than four 5-pint bottles may be packed in one outside container.

(7) Spec. 12R (§ 178.212 of this subchapter). Paper-faced expanded polystyrene board boxes with inside glass bottles not over 5 pints capacity each. Not more than six 5-pint bottles shall be packed in one outside shipping container.

(g) Closures for bottles. Glass stoppers ground to fit and held in place by plaster of Paris covered by a strong cloth securely tied; or:

(1) Threaded-type acid-resistant caps with gasket or lining impervious to the acid and sufficiently resilient, or cushioned, to give an acidproof closure; at least 1 complete continuous thread is required to be engaged when bottle is closed for shipment.

(h) Cushioning inside containers. Inside containers must be well cushioned. Except as provided in subparagraph (1) of this paragraph, all material for cushioning must be incombustible mineral material such as whiting, mineral wool, infusorial earth, asbestos, sifted ashes, etc. The use of hay, excelsior, ground cork, or similar material, whether treated or untreated, is prohibited. Where the cushioning material is very fine or powdery, separate partitions for the individual inside containers shall be provided to prevent the bottles from shifting and coming in contact with each other, and the box must be tight to prevent sifting of cushioning material.

(1) Cushioning of inside containers in outside specification wooden boxes by means of elastic packings, such as wooden strips, large corks, or pads formed of an expanded polystyrene resin that is resistant to the action of nitric acid, fastened securely in position, is authorized if the completed package will pass the swing test prescribed for boxed carboys.

(i) Nitric acid of any concentration, when offered for transportation by air, must be packaged as follows:

(1) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with inside glass bottles with glass stoppers ground to fit, and these stoppers must be held in place by plaster of Paris covered by strong cloth securely tied. Glass bottles having necks with molded screw threads, must be closed by threaded type acid-resistant plastic caps. Caps must be equipped with an elastic composition cushion and with glass porcelain or similar liner which must be impervious to the acid. Such caps, when secured in place by at least one complete continuous thread, must be capable of preventing any leakage of the acid.

(2) Or glass bottles having necks with molded screw threads must be closed by thread-type acid-resistant caps. Caps must be lined with a resilient liner which must be impervious to the acid. Such caps, when secured in place by at least one complete continuous thread, must be capable of preventing any leakage of the acid.

(3) Each bottle must be placed in a tightly closed metal container, and well cushioned therein on all sides with incombustible mineral packing material, such as whiting, mineral wool, infusorial earth (kieselguhr), asbestos, sifted ashes, or powdered china clay, etc. The metal container must be packed in outside containers, and well cushioned by incombustible mineral packing material as described in this section.

(4) Not more than 5 pints of nitric acid shall be shipped in one outside package.

(j) Nitric acid of 50 percent or less concentration, when offered for transportation by air, may in addition to the provisions of paragraph (i) of this section be packaged as follows:

(1) Spec. 15A, 15B, 15C, 16A, 19A, or 12B (§ 178.168, § 178.169, § 178.170, § 178.185, § 178.190, or § 178.205 of this subchapter). Wooden or fiberboard boxes with not over 12 inside glass ampoules having capacity not over 4 fluid ounces each. Each glass ampoule must be well cushioned with incombustible mineral packing material, such as vermiculite or other equally efficient material, and be packed in a cylindrical cardboard tube having wall thickness of at least ⅛ inch, with the inside coated with wax, and be equipped with metal bottom and with metal screw-cap top. The inside packages must be separated by efficient means.

[29 FR 18725, Dec. 29, 1964, as amended by Order 66, 30 FR 5746, Apr. 23, 1965; Order 73, 32 FR 3456, Mar. 2, 1967. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-36, 35 FR 16635, Oct. 27, 1970; Amdt. 173-54, 36 FR 18469, Sept. 15, 1971; Amdt. 173-80, 39 FR 15036, Apr. 30, 1974; Amdt. 173-81, 39 FR 17319, May 15, 1974; Amdt. 173-94, 41 FR 16077, Apr. 15, 1976]

§ 173.269 Perchloric acid.

(a) Perchloric acid in excess of 72 percent must not be shipped. When not exceeding 72 percent strength must be packed in specification containers as follows:

(1) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or § 178.190 of this subchapter). Wooden boxes with glass inside containers consisting of glass bottles not over 5 pints capacity each, cushioned with incombustible mineral material in amount sufficient to absorb the acid.

(2) Specification 1A, 1C, 1D, 1E, or 1K (§§ 178.1, 178.3, 178.4, 178.7, 178.14 of this subchapter). Glass carboys in boxes, kegs, or plywood drums. Not authorized for transportation by air.

(3) Spec. 1X (§ 178.5 of this subchapter). Boxed carboys; single-trip for export only. For shipment by common carriers by water to noncontiguous territories or possession of the United States and foreign countries; shipments from inland points in the United States which are consigned to such destinations are authorized to be transported to ship side by rail freight in carload lots only and by motor vehicle in truckload lots only.

(4) Spec. 33A (§ 178.150 of this subchapter). Polystyrene cases (nonreusable container) with inside glass bottles not over 5 pints capacity each. Not more than four 5-pint bottles may be packed in one outside container.

(5) Spec. 12R (§ 178.212 of this subchapter). Paper-faced expanded polystyrene board boxes with inside glass bottles not over 5 pints capacity each. Not more than six 5-pint bottles shall be packed in one outside shipping container.

(b) Cushioning for carboys must be incombustible mineral material, elastic wooden strips, natural cork blocks or rubber blocks. Other materials may be used if approved by the Bureau of Explosives. The use of hay, excelsior, loose ground cork, or similar materials, whether treated or untreated, is prohibited.

(c) Perchloric acid in any quantity must not be packed with any other article.

(d) Closures for bottles. Required as follows:

(1) Glass stoppers ground to fit and held in place by plaster of Paris covered by a strong cloth securely tied.

(2) Threaded-type acid-resistant caps with a gasket or lining impervious to the acid and sufficiently resilient, or cushioned, to give an acid-proof closure: at least one complete continuous thread is required to be engaged when bottle is closed for shipment.

(e) Inside containers must be well cushioned. All material for cushioning must be incombustible mineral material, such as whiting, mineral wool, infusorial earth (kieselguhr), asbestos, sifted ashes, or powdered china clay, etc. The use of hay, excelsior, ground cork, or similar material, either treated or untreated, is prohibited. Where the cushioning material is very fine or powdery, separate partitions for the individual inside containers should be provided to prevent the bottles from shifting and coming in contact with each other, and the box must be tight to prevent sifting of cushioning material.

(1) Cushioning of inside containers in outside wooden boxes by means of elastic packings, such as wooden strips, large corks, or pads formed of an expanded polystyrene resin that is resistant to the action of perchloric acid, fastened securely in position, is authorized if the completed package will pass the swing test prescribed for boxed carboys.

[29 FR 18725, Dec. 29, 1964, as amended by Order 66, 30 FR 5746, Apr. 23, 1965; Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16078, Apr. 15, 1976]

§ 173.270 Phosphorus tribromide.

(a) Phosphorus tribromide must be packed in specification containers as follows:

(1) Spec. 5H (§ 178.87 of this subchapter). Lead-lined metal barrels or drums.

(2) [Reserved]

(3) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with glass or earthenware inside containers not over 1 gallon each, except that inside containers up to 3 gallons each are authorized when only one is packed in an outside container.

(4) Spec. 28 (§§ 178.8 of this subchapter). Metal-jacketed lead carboys.

(5) Spec 5K or 5M (§§ 178.88 or 178.90 of this subchapter). Nickel or Monel drums not over 10 gallons capacity each.

[29 FR 18725, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, as amended by Amdt. 173-81, 39 FR 17319, May 15, 1974; Amdt. 173-94, 41 FR 16078, Apr. 15, 1976]

§ 173.271 Phosphorus oxybromide, phosphorus oxychloride, phosphorus trichloride, and thiophosphoryl chloride.

(a) Phosphorus oxybromide, phosphorus oxychloride, phosphorus trichloride, and thiophosphoryl chloride must be packed in specification containers as follows:

(1) Spec. 5H (§ 178.87 of this subchapter). Lead-lined metal barrels or drums.

(2) Spec. 5K (§ 178.88 of this subchapter). Nickel drums.

(3) [Reserved]

(4) Spec. 15A, 15B, 15C, 16A, or 19A 178.190 of this subchapter). Wooden boxes with glass or earthenware inside containers not over 1 gallon each, except that inside containers up to 3 gallons each are authorized when only one is packed in an outside container.

(5) Spec. 28 (§ 178.8 of this subchapter). Metal-jacketed lead carboys.

(6) Spec. 60 (§ 178.255 of this subchapter). Portable tanks when tanks are lead-lined.

(7) Spec. 103ANW (§§ 179.200 and 179.201 of this subchapter). Tank cars. Tank must be of solid nickel at least 99 percent pure and all cast metal parts of the tank in contact with the lading have a minimum nickel content of approximately 96.7 percent.

(8) Specification MC 310,[1] MC 311,[1] or MC 312 (§§ 178.340, 178.343). Tank motor vehicles, subject to the following conditions:

(i) Lead-lined or nickel-lined tanks. If nickel-lined, the lining must consist of at least one thirty-second inch of uncontaminated nickel at all points including rivets, welds and other joints, and edges of tank plates.

(ii) Tanks fabricated from type 316 stainless steel, or clad with type 316 stainless steel having a minimum thickness of 0.2 times the design thickness of the parent metal, are authorized only for phosphorus oxychloride and phosphorus trichloride.

(iii) Tanks made from mild steel or austenitic stainless steel, without lining or cladding. Authorized only for phosphorus trichloride.

(iv) Specification MC 311 [1] or MC 312 tank motor vehicles only. Tanks must be constructed of nickel at least 99 percent pure with all cast metal parts of the tank in contact with the lading having a minimum nickel content of approximately 96.7 percent. Authorized only for phosphorus oxychloride and phosphorus trichloride.

(9) Specification 103A,[1] 103AW, 111A60W2, or 111A100F2 (§§ 179.200, 179.201 of this subchapter). Tank cars. Specification 103A,[1] tanks must be lead-lined steel or made of steel at least 10 percent nickel clad. Specification 103AW, 111A60W2, or 111A100F2 tanks must be lead-lined steel or made of steel with a minimum thickness of nickel cladding $\frac{1}{16}$-inch. Nickel cladding in tanks must have a minimum nickel content of at least 99 percent pure nickel.

(10) Spec. 103E W (§§ 179.200 and 179.201 of this subchapter). Tank cars made from Type 316 stainless steel. Authorized for phosphorus trichloride and thiophosphoryl chloride only.

(11) Specification 103A,[1] 103AW, 111A60W2, or 111A100F2 (§§ 179.200, 179.201 of this subchapter). Tank cars. Authorized for phosphorus trichloride only.

(12) Spec. 5A or 5C (§§ 178.81 or 178.83 of this subchapter). Metal barrels or drums. Authorized for phosphorus trichloride and thiophosphoryl chloride.

(13) [Reserved]

(14) [Reserved]

(15) [Reserved]

(16) Spec. 17C (§ 178.115 of this subchapter). Metal drums (single-trip) with no opening exceeding 2.3 inches in diameter. When drums are not constructed of stainless steel they must be lined with a material impervious to the lading. Authorized for phosphorus trichloride only.

(17) Spec. 5M (§ 178.90 of this subchapter). Monel drums not over 10 gallons capacity each.

(18) Specification 5B (§ 178.82 of this subchapter). Metal barrels or drums lined with a material which is compatible with the commodity. Authorized for thiophosphoryl chloride only.

[29 FR 18725, Dec. 29, 1964, as amended by Order 73, 32 FR 3457, Mar. 2, 1967. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-6, 34 FR 7161, May 1, 1969; Amdt. 173-45, 36 FR 5421, Mar. 23, 1971; Amdt. 173-73, 38 FR 20085, July 27, 1973; Amdt. 173-80, 39 FR 15037, Apr. 30, 1974; Amdt. 173-81, 39 FR 17319, May 15, 1974; Amdt. 173-94, 41 FR 16078, Apr. 15, 1976]

§ 173.272 Sulfuric acid.

(a) Sulfuric acid (oleum, oil of vitriol, etc.) must be packed in specification containers as follows:

(b) Limited quantities of sulfuric acid solutions in concentrations of 25 percent of less, in inside packagings of not over 8 fluid ounces capacity each, packed in strong outside packagings and cushioned with absorbent material in sufficient quantity to completely absorb liquid contents in event of breakage, are excepted from labeling (except when offered for transportation by air) and the specification packaging of this subchapter. In addition, shipments are not subject to Subpart F of Part 172 of this subchapter, to Part 174 of this subchapter except § 174.24 and to Part 177 of this subchapter except § 177.817.

(c) *Sulfuric acid concentration of 51 percent or less:* Authorized packaging is described in subparagraphs (1) through (16) and (23) through (26) of paragraph (1) of this section.

(d) *Sulfuric acid concentration of greater than 51 percent to not over 65.25 percent:* Authorized packaging is described in subparagraphs (1) through

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[1] The use of existing tanks authorized but new construction not authorized.

(16) and (27) of paragraph (i) of this section.

(e) *Sulfuric acid concentration of greater than 65.25 percent to not over 77.5 percent:* Authorized packaging is described in subparagraphs (1) through (16) and (20) through (22) of paragraph (i) of this section.

(f) *Sulfuric acid concentration of greater than 77.5 percent to not over 95 percent:* Authorized packaging is described in subparagraphs (1) through (22) of paragraph (i) of this section.

(g) *Sulfuric acid concentration of greater than 95 percent to not over 100.5 percent:* Authorized packaging is described in subparagraphs (1) through (4) and (14) through (22) of paragraph (i) of this section.

(h) *Sulfuric acid concentration of over 100.5 percent:* Authorized packaging is described in subparagraphs (1) through (4), (17), and (19) through (22) of paragraph (i) of this section.

(i) Authorized packagings are described as follows:

(1) Specification 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, 178.190 of this subchapter). Wooden boxes with glass inside containers, not over 1 gallon capacity each, except that a glass inside container up to 3 gallons capacity may be used if only one container is packed in each outside wooden box.

(2) Specification 12A (§ 178.210 of this subchapter). Fiberboard boxes with inside glass bottles not over 5 pints capacity **each. Not more than six 5-pint glass bottles may be packed in one outside container. Shipper must have established that the completed package meets the test requirements prescribed in** § 178.219-10 of this subchapter.

(3) Specification 33A (§ 178.150 of this subchapter). Polystyrene cases (nonreusable container) with inside glass bottles not over 5 pints capacity each. Not more than four 5-pint bottles may be packed in one outside container.

(4) Specification 1X (§ 178.5 of this subchapter). Boxed carboys; single-trip for export only. For shipment by water to **noncontiguous territories or possessions of the United States and foreign countries; shipments from inland points in the United States which are consigned to such destinations are authorized to be transported to ship side by rail freight in carload lots only and by motor vehicle in truckload lots only.**

(5) Specifications 1H, 15P, or 22C (§§ 178.13, 178.182, 178.198 of this subchapter). Metal crate with an inside polyethylene carboy; or glued plywood or wooden box, or plywood drum as prescribed by § 178.198-2(a) of this subchapter with an inside specification 2T or 2TL (§§ 178.21, 178.27 of this subchapter) polyethylene container.

(6) Specification 6D or 37M (nonreusable container) (§§ 178.102, 178.134 of this subchapter). Cylindrical steel overpacks with an inside specification 2S, 2SL, or 2T (§§ 178.35, 178.35a, 178.21 of this subchapter) polyethylene container. Overpack of 55-gallon capacity must be constructed of at least 16-gage steel **throughout when used for sulfuric acid of 93 percent or greater concentration.**

(7) Specification 16D (§ 178.187 of this subchapter). Wirebound wooden overwrap, with an inside specification 2T, 2TL, 2S, or 2SL (§§ 178.21, 178.27, 178.35, 178.35a of this subchapter), polyethylene container.

(8) Specification 21P (§ 178.225 of this subchapter). Fiber drum overpack with an inside specification 2T or 2U (§§ 178.21, 178.24 of this subchapter) polyethylene container not over 15-gallon capacity.

(9) Specification 34 (§ 178.19 of this subchapter). Polyethylene container without overpack, not over 30-gallon capacity.

(10) Specification 16A (§ 178.185 of this subchapter). Wirebound wooden box (§ 178.185-22 of this subchapter) with an inside specification 2U (§ 178.24 of this subchapter) polyethylene container. The polyethylene container must be separated from the wooden box by a complete corrugated fiberboard liner and top and bottom pads. Not authorized for transportation by air.

(11) Specification 12P (§ 178.211 of this subchapter). Fiberboard boxes with an inside specification 2U (§ 178.24 of this subchapter) polyethylene container not over 5-gallon capacity each. Wire staples are not authorized for assembly or closure of boxes, except when polyethylene container is completely enclosed in an inside box free of wire staples or other projections that could cause failures. Not authorized for transportation by air.

(12) Specification 12B (§ 178.205 of this subchapter). Fiberboard boxes with inside polyethylene containers or other **containers of plastic compatible with the chemical, not over 1-gallon capacity** each. Inside containers must be cushioned to prevent movement in the outside box. Not more than four 1-gallon inside containers may be packed in one outside container. Authorized gross weight not over 75 pounds.

(13) Specification 12R (§ 178.212 of this subchapter). Paperfaced expanded **polystyrene board boxes with inside spec**ification 2E (§ 178.24a of this subchapter) polyethylene bottles not over 1-gallon capacity each. Not more than four 1-gallon capacity each. Not more than four 1-gallon polyethylene bottles may be packed in one outside packaging.

(14) Specification 12R (§ 178.212 of this subchapter). Paperfaced expanded **polystyrene board boxes with inside glass bottles not over 5 pints capacity each. Not more than six 5-pint bottles may be packed in one outside shipping container.**

(15) Specification 1A, 1C, or 1K (§§ 178.1, 178.3, 178.14 of this subchapter). Carboys in boxes or kegs. Not authorized for transportation by air.

(16) Specification 1D or 1E (§§ 178.4, 178.7 of this subchapter). Glass carboys in boxes or plywood drums of not over 6.5 gallons nominal capacity. Not authorized for transportation by air.

(17) Specification 5A (§ 178.81 of this subchapter). Metal barrels or drums. Au**thorized for sulfuric acid of 77.5 percent or greater concentrations, with or with**out an inhibitor, provided such acid has **a corrosive effect on steel no greater than** 93.2 percent sulfuric acid, measured at 100° F.

NOTE 1: Tapered steel plugs, without gaskets, for standard specification 5A flanges are authorized. Threaded length must not be less than 1.5 inches. Major diameter of plug must not be over $2\frac{11}{32}$ inches, and minor diameter not less than $2\frac{7}{32}$ inches.

(18) Specification 17F (§ 178.117 of this subchapter). Metal barrels or drums (single-trip only). Drums equipped with vented closures of an experimental type approved by the Bureau of Explosives are also authorized for export shipments. Authorized for sulfuric acid of 77.5 percent to 98 percent concentrations with or without an inhibitor, provided such acid has a corrosive effect on steel no greater than 93.2 percent sulfuric acid, measured at 100° F.

(19) Specification 5C (§ 178.83 of this subchapter). Metal barrels or drums of Type 304, 316, or 347 stainless steel or other types of stainless steel of at least equivalent corrosion resistance and physical properties. Authorized for sulfuric acid of 93 percent or greater concentrations.

(20) Specification 60 (§ 178.255 of this subchapter). Portable tank. Authorized for sulfuric acid of 65.25 percent of greater concentrations provided the corrosive effect in steel is not greater than that of 65.25 percent sulfuric acid, measured at 100° F.

(21) Specification MC 310, MC 311, or MC 312 (§ 178.343 of this subchapter). Tank motor vehicles. Authorized for sulfuric acid of concentrations 65.25 percent or greater concentrations, provided the corrosive effect in steel is not greater than that of 65.25 percent sulfuric acid, measured at 100° F.

(22) Specification 103A,[1] 103AW, 111A60W2, or 111A100F2 (§§ 179.200, 179.201 of this subchapter). Tank cars. Authorized for sulfuric acid of concentrations 65.25 percent or greater concentrations, provided the corrosive effect in steel is not greater than that of 65.25 percent sulfuric acid, measured at 100°F. Tank cars used for sulfuric acid, mixed acid (nitric and sulfuric acids) (nitrating acid), and other fuming acids, may be equipped with safety vents incorporating frangible discs having a ⅛-inch breather hole in their center. The ⅛-inch breather hole is not permitted in frangible discs of safety vents on oleum tank cars.

(23) Specification 5D (§ 178.84 of this subchapter). Rubber-lined metal drums.

(24) Specifications 60 (§ 178.255 of this subchapter). Rubber-lined portable tanks.

(25) Specification MC 310, MC 311, or MC 312 (§ 178.343 of this subchapter). **Rubber-lined tank motor vehicles.**

(26) Specification 103B,[1] 103BW, or 111A60W5 (§§ 179.200, 179.201 of this subchapter). Lined tank cars.

(27) Specification 103AW, 111A100F2, or 111A60W2 (§§ 179.200, 179.201 of this subchapter). Tank cars having tanks equipped with a phenolic lining impervious to the lading.

[29 FR 18725, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, as amended by Amdt.

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[1] The use of existing tanks authorized but new construction not authorized.

173-52, 36 FR 15047, Aug. 12, 1971; Amdt. 173-80, 39 FR 15037, May 15, 1974; Amdt. 173-94, 41 FR 16078, Apr. 15, 1976; Amdt. 173-94a, 41 FR 40682, Sept. 20, 1976]

§ 173.273 Sulfur trioxide, stabilized.

(a) Sulfur trioxide, stabilized, must be packed in specification containers as follows:

(1) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with glass or earthenware inside containers not over 1 gallon each.

(2) Spec. 5A or 5C (§§ 178.81 or 178.83 of this subchapter). Metal barrels or drums, not over 55 gallons capacity each.

(3) Spec. 17F (§ 178.117 of this subchapter). Metal drums (single-trip).

(4) Specification 103A,[1] 103AW, 105A100W, 111A60W2, or 111A100F2 (§§ 179.100, 179.101, 179.200, 179.201 of this subchapter). Tank cars. Authorized only for stabilized sulfur trioxide. Tank cars must have safety valves of approved design and not subject to rapid deterioration by the lading. Cars equipped with interior heater coils not permitted.

(i) Each tank car must be marked "SULFUR TRIOXIDE" in accordance with the requirements of § 172.330 of this subchapter.

(5) Specifications MC 310, MC 311, or MC 312 (§ 178.343 of this subchapter). Tank motor vehicles. Authorized only for stabilized sulfur trioxide. Tanks must be equipped with spring-relief safety valves. Tanks equipped with interior heater coils not permitted.

[29 FR 18725, Dec. 29, 1964, as amended by Order 73, 32 FR 3457, Mar. 2, 1967. Redesignated at 32 FR 5606, and amended by Amdt. 173-80, 39 FR 15037, May 15, 1974; Amdt. 173-94, 41 FR 16078, Apr. 15, 1976]

§ 173.274 Fluosulfonic acid.

(a) Fluosulfonic acid must be packed in containers as follows:

(1) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with inside containers which must be not over 1 gallon each, except that inside containers up to 3 gallons are authorized when only one is packed in each outside container, as prescribed in Notes 1 and 2 to this section.

NOTE 1: Bottles manufactured of Pyrex glass or glass of equal acid resistance, authorized only for material containing an excess of sulfur trioxide, with Pyrex glass stoppers, or glass stoppers of equal acid resistance, ground to fit and held in place by plaster of Paris covered by strong cloth securely tied; each bottle must be placed in a metal container, well cushioned therein with incombustible absorbent materials such as mineral wool, infusorial earth (kieselguhr), asbestos, etc.

NOTE 2: Or steel containers, 14 gauge steel throughout, welded heads and side seams, equipped with ¾ inch welded flange and plug. Threads for plug must be 8 or less per inch. Each drum must be tested for leakage with 15 pounds hydrostatic pressure.

(2) Spec. 5A or 17F (single-trip) (§ 178.81 or § 178.117 of this subchapter). Metal barrels or drums not over 55 gallons capacity each.

(3) Specification 103A,[1] 103AW, 111A60W2, or 111A100F2 (§§ 179.200, 179.201 of this subchapter). Tank cars.

(4) Specification MC 310, MC 311, or MC 312 (§ 178.343 of this subchapter). Tank motor vehicles.

[29 FR 18725, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-80, 39 FR 15037, Apr. 30, 1974; Amdt. 173-81, 39 FR 17319, May 15, 1974; Amdt. 173-94, 41 FR 16078, Apr. 15, 1976]

§ 173.275 Difluorophosphoric acid, anhydrous, monofluorophosphoric acid, anhydrous, hexafluorophosphoric acid, and mixtures thereof.

(a) Difluorophosphoric acid, anhydrous, monofluorophosphoric acid, anhydrous, hexafluorophosphoric acid, and mixtures thereof must be packed in specification containers as follows:

(1) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185 or (§ 178.81 or § 178.117 of this subchap- boxes, spec. 12B (§ 178.205 of this subchapter) fiberboard boxes, or spec. 21C (§ 178.224 of this subchapter) fiber drums with inside containers which must be polyethylene, or other nonfragile plastic bottles resistant to the lading, not over 2 gallons capacity each, closed by means of threaded acid-resistant caps; caps must have at least one complete continuous thread and be additionally sealed to the bottle to prevent turning of cap after bottle is closed for shipment.

(2) Spec. 42B, 42C, or 42D (§§ 178.107, 178.108, or 178.109 of this subchapter). Aluminum drums not over 55 gallons capacity.

(3) Spec. 22C (§ 187.198 of this subchapter). Plywood drums as prescribed by § 178.198-2(a) of this subchapter, with inside spec. 2T (§ 178.21 of this subchapter) polyethylene container.

(4) Spec. 60 (§ 178.255 of this subchapter). Portable tanks. Authorized for inhibited acids enumerated in this paragraph only.

(b) Inside containers must be packed so they cannot change position in the outside container while in transit and inert absorbent cushioning material must be used where necessary.

[29 FR 18725, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16078, Apr. 15, 1976]

§ 173.276 Anhydrous hydrazine and hydrazine solution.

(a) Anhydrous hydrazine and hydrazine solution containing 50 percent or less of water must be packed in specification containers as follows:

(1) Specification 1D (§ 178.4 of this subchapter). Boxed glass carboys. Not authorized for transportation by air.

(2) Spec. 15A, 15B, or 15C (§§ 178.168, 178.169, or 178.170 of this subchapter). Wooden boxes with inside containers which must consist of glass bottles not exceeding 1-gallon capacity each, cushioned by means of vermiculite within tin cans which shall be tightly closed.

(3) Spec. 5, 5A, 5C, or 17E (single-trip) (§§ 178.80, 178.81, 178.83, or 178.116 of this subchapter). Metal barrels or drums which shall be of type 304 or 347 stainless steel, with openings not exceeding 2.3 inches in diameter.

(4) Specification 103CW, 111A60W7, or 111A100W6 (§§ 179.200, 179.201 of this subchapter). Tank cars having tanks of Type 304L or 347 stainless steel with molybdenum content not exceeding one-half of 1 percent. The safety relief valve on specification 103CW tank car tanks may have a start-to-discharge pressure of not more than 45 p.s.i. in place of 35 p.s.i. Specification 111A100W6 tank cars must not be equipped with bottom outlet. Bottom washout permitted. Vapor space in tanks must be filled with nitrogen gas at atmospheric pressure.

(5) Specification 103A-ALW or 111A60ALW2 (§§ 179.200, 179.201 of this subchapter). Tank cars. The safety relief valve on tanks may not have a start-to-discharge pressure of more than 45 p.s.i. in place of 35 p.s.i. Vapor space in tanks must be filled with nitrogen gas at atmospheric pressure. Authorized for anhydrous hydrazine only.

(6) Specifications MC 310, MC 311, or MC 312 (§ 178.343 of this subchapter). Tank motor vehicles having tanks of Type 304L or 347 stainless steel with molybdenum content not exceeding one-half of 1 percent. Vapor space in tank must be filled with nitrogen gas at not less than atmospheric pressure.

(7) Spec. 37M (nonreusable container) (§ 178.134 of this subchapter). Cylindrical steel overpack with inside spec. 2SL (§ 178.35a of this subchapter) polyethylene container. Authorized for hydrazine solution only

(8) Spec. 42B, 42C, or 42D (§§ 178.107, 178.108, 178.109 of this subchapter) aluminum drums. Authorized for anhydrous hydrazine only.

[29 FR 18725, Dec. 29, 1964, as amended by Order 66, 30 FR 5746, Apr. 23, 1965; Order 73, 32 FR 3457, Mar. 2, 1967. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-5, 34 FR 6437, Apr. 12, 1969; Amdt. 173-6, 34 FR 7161, May 1, 1969; Amdt. 173-80, 39 FR 15037, Apr. 30, 1974; Amdt. 173-94, 41 FR 16078, Apr. 15, 1976]

§ 173.277 Hypochlorite solutions.

(a) Hypochlorite solutions containing more than 7 percent available chlorine by weight must be packed in specification containers as follows:

(1) Spec. 15A, 15B, 15C or 12B. (§§ 178.168, 178.169, 178.170 or 178.205 of this subchapter). Wooden or fiberboard boxes with glass, earthenware, or polyethylene inside containers of not more than 1 gallon capacity each. Packages must not weigh over 65 pounds gross nor contain more than 4 glass or earthenware inside containers if their capacity is greater than 5 pints each, or more than six such inside polyethylene containers.

(2) Specification 1A, 1C, 1D, or 1E (§§ 178.1, 178.3, 178.4, 178.7 of this subchapter). Glass carboys in boxes, kegs or plywood drums. Not authorized for transportation by air.

(3) Spec. 1H, 15P, or 22C (§§ 178.13, 178.182, or 178.198 of this subchapter).

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[1] The use of existing tanks authorized but new construction not authorized.

[1] The use of existing tanks authorized but new construction not authorized.

Metal crate with inside polyethylene carboy; or glued plywood or wooden box, or plywood drum as prescribed by § 178.198-2(a) of this subchapter, with inside spec. 2T (§ 178.21 of this subchapter) polyethylene container. Spec. 15P glued plywood or wooden box may contain spec. 2S (§ 178.35 of this subchapter) polyethylene drum. Authorized for not over 16 percent sodium hypochlorite solution only.

(4) Specification 6D or 37M (nonreusable container) (§§ 178.102, 178.134 of this subchapter). Cylindrical steel overpacks with inside specification 2S or 2SL (§§ 178.35, 178.35a of this subchapter) polyethylene liners. Authorized for not over 16 percent sodium hypochlorite solution only.

(5) Specification 12P (§ 178.211 of this subchapter). Fiberboard boxes with inside specification 2U (§ 178.24 of this subchapter) polyethylene container not over 5 gallons capacity each. Wire staples are not authorized for assembly or closure of boxes, except when polyethylene container is completely enclosed in inside boxes free of wire staples or other projections that could cause failures. Not authorized for transportation by air.

(6) Spec. 34 (§ 178.19 of this subchapter). Polyethylene container without overpack, not over 30-gallons capacity. Authorized for not over 16 percent sodium hypochlorite solution only.

(b) Closures for inside containers and carboys must be vented and must be of a material resistant to the lading and capable of preventing leakage of liquid contents.

(c) [Reserved]

(d) Limited quantities of this material in glass inside packaging of not more than 4 fluid ounces capacity each, packed in strong outside packaging, and cushioned with absorbent material in sufficient quantity to completely absorb liquid contents in the event of breakage, are excepted from labeling (except when offered for transportation by air) and the specification packaging requirements of this subchapter.

(1) Polyethylene pouches not over 2½ ounces capacity each, heat sealed, and formed of polyethylene, or other suitable plastic, not less than .0035 inch in thickness to which shall be laminated a .0015 inch, 25-pound basis weight white sulphate paper, when securely packed not more than 144 pouches in a strong fiberboard box (absorbent cushioning material not required), are exempt from specification packaging, marking, and labeling requirements, except that marking name of contents on outside container is required for shipments via carrier by water. Shipments for transportation by highway carriers are exempt also from Part 177 of this subchapter, except § 177.817.

(e) Limited quantities of this material in polyethylene pouches not over 2½ ounces capacity each, heat sealed, and formed of polyethylene, or other suitable plastic, not less than 0.0035-inch in thickness to which must be laminated a 0.0015-inch, 25-pound basis weight white sulphate paper, when securely packed not more than 144 pouches in a strong fiberboard box, are excepted from labeling (except when offered for transportation by air) and the specification packaging requirements, of this subchapter. In addition, shipments are not subject to Subpart F of Part 172 of this subchapter, to Part 174 of this subchapter except § 174.24 and to Part 177 of this subchapter, except § 177.817.

(f) Special exceptions for shipment of certain hypochlorite solutions in the ORM-D class are provided in Subpart N of this part.

(g) Shipments by tank motor vehicle are not subject to any requirements of this subchapter.

[29 FR 18725, Dec. 29, 1964, as amended by Order 71, 31 FR 9071, July 1, 1966. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-48, 36 FR 11734, June 18, 1971; Amdt. 173-54, 36 FR 18469, Sept. 15, 1971; Amdt. 173-94, 41 FR 16078, Apr. 15, 1976; Amdt. 173-94A, 41 FR 40682, Sept. 20, 1976]

§ 173.278 Nitrohydrochloric acid.

(a) Nitrohydrochloric acid, which is a mixture of nitric acid not over 1.42 specific gravity and hydrochloric acid not over 1.19 specific gravity in the approximate proportions of one part nitric acid and three parts hydrochloric acid, must be packed in specification containers as follows:

(1) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with glass inside containers of not over 5 pints capacity each, individually inclosed in tightly closed metal cans and cushioned therein with sufficient incombustible mineral material.

(b) Nitrohydrochloric acid diluted, is a solution of nitrohydrochloric acid as described in paragraph (a) of this section, which has been diluted to not less than five times the volume of water and must be packed in specification containers as follows:

(1) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with glass inside containers of not over 5 pints capacity each, individually inclosed in tightly closed metal cans and cushioned therein with sufficient incombustible mineral material.

(2) Specification 1A, 1D, or 1E (§§ 178.1, 178.4, 178.7 of this subchapter). Glass carboys in boxes or plywood drums, not over 5 gallons nominal capacity for specification 1A and not over 6.5 gallons nominal capacity for specifications 1D and 1E. Not authorized for transportation by air.

[29 FR 18725, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16078, Apr. 15, 1976]

§ 173.279 Anisoyl chloride.

(a) Anisoyl chloride must be packed in specification containers as follows:

(1) Spec. 5C (§ 178.83 of this subchapter). Metal barrels or drums.

(2) Spec. 5 (§ 178.80 of this subchapter). Metal barrels or drums of stainless steel only, with flanges for closures welded in place and having no opening exceeding 2.3 inches in diameter.

(b) Limited quantities of this material in inside packagings of not over 8 fluid ounces capacity each, packed in strong outside packaging, and cushioned with absorbent material in sufficient quantity to completely absorb liquid contents in the event of breakage, are excepted from labeling (except that labeling is required for transportation by air) and specification packaging requirements of this subchapter. In addition, shipments are not subject to Subpart F of Part 172 of this subchapter, to Part 174 of this subchapter except § 174.24 and to Part 177 of this subchapter except § 177.817.

[29 FR 18725, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16078, Apr. 15, 1976, Amdt. 173-94A, 41 FR 40683, Sept. 20, 1976]

§ 173.280 Trichlorosilanes.

(a) Allyl trichlorosilane, amyl trichlorosilane, butyl trichlorosilane, chlorophenyl trichlorosilane, cyclohexenyl trichlorosilane, cyclohexyl trichlorosilane, dichlorophenyl trichlorosilane, diphenyl dichlorosilane, dodecyl trichlorosilane, ethyl phenyl dichlorosilane, hexadecyl trichlorosilane, hexyl trichlorosilane, nonyl trichlorosilane, octadecyl trichlorosilane, octyl trichlorosilane, phenyl trichlorosilane, and propyl trichlorosilane must be packaged as follows;

(1) Spec. 15A or 16B (§ 178.168 or 178.186 of this subchapter). Wooden boxes with glass inside containers not over 1 gallon capacity each securely closed and cushioned with incombustible absorbent material.

(2) Spec. 17H or 37A (§ 178.118 or 178.131 of this subchapter). Metal drums (single-trip), with glass inside containers not over 1 gallon capacity each securely closed and cushioned with incombustible absorbent material.

(3) Spec. 5A (§ 178.81 of this subchapter). Metal drums not over 55 gallons capacity.

(4) Spec. 5F (§ 178.85 of this subchapter). Metal drums not over 11 gallons capacity.

(5) Specification 5, 5B, 5C, and 17E single-trip (§§ 178.80, 178.82, 178.83, 178.116 of this subchapter). Metal drums. Not authorized for shipment by air.

(6) Specification cylinders as prescribed for any compressed gas, except acetylene.

(7) Specification 103W, 103A,[1] 103AW, 105A100,[1] 105A100W, 111A60F1, 111A60W1, 111A60W2, 111A100F2, or 111A100W4 (§§ 179.100, 179.101, 179.200, 179.201 of this subchapter). Tank cars.

(8) Specifications MC 310, MC 311, or MC 312 (§ 178.343 of this subchapter). Tank motor vehicles of steel or stainless steel construction.

[29 FR 18725, Dec. 29, 1964, as amended by Order 73, 32 FR 3457, Mar. 2, 1967. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-80, 39 FR 15037, Apr 30, 1974; Amdt. 173-94, 41 FR 16079, Apr. 15, 1976]

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[1] The use of existing tank cars authorized, but new construction not authorized.

§ 173.281 Benzyl bromide (bromotoluene, alpha).

(a) Benzyl bromide (bromotoluene, alpha) must be packed in specification containers as follows:

(1) Spec. 15A, 15B, or 15C (§§ 178.168, 178.169, and 178.170 of this subchapter). Wooden boxes with inside containers which must be glass bottles, not over 1-gallon capacity each, closed by means of screw caps which are resistant to action of the contents; bottles must be packed in metal cans having slip-on or friction closure; cans must be cushioned in outside boxes with incombustible material.

(2) Spec. 5K or 5M (§ 178.88 or 178.90 of this subchapter). Nickel or monel barrels or drums. Spec. 5M drums shall not be over 10 gallons capacity.

[29 FR 18725, Dec. 29, 1964, as amended by Order 66, 30 FR 5746, Apr. 23, 1965; Order 67, 30 FR 7422, June 5, 1965. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16079, Apr. 15, 1976]

§ 173.282 Isopropyl percarbonate, stabilized.

(a) Isopropyl percarbonate, stabilized, must be packed in specification containers as follows:

(1) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with glass or earthenware inside containers of not over 2 gallons capacity each which must be maintained at a temperature below 75° F. Shipments are authorized for transportation by private or contract carrier by motor vehicle only.

[29 FR 18725, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16079, Apr. 15, 1976]

§ 173.283 Fluoboric acid.

(a) Fluoboric acid exceeding 50 percent concentration must be packed as prescribed in § 173.264(a) for hydrofluoric acid.

(b) Fluoboric acid of 50 percent concentration or less must be packed as follows:

(1) In specification packaging as prescribed in paragraph (a) of this section.

(2) In specification packaging as prescribed in § 173.245(a) (12), (16), (18), (19), (21), (24), and (26).

[Amdt. 173-86, 39 FR 37062, Oct. 17, 1974; as amended by: Amdt. 173-94, 41 FR 16079, Apr. 15, 1976]

§ 173.284 [Reserved]

§ 173.285 [Reserved]

§ 173.286 Chemical kits.

(a) Chemical kits, except as otherwise provided in Parts 170-189 of this subchapter, must be packed, marked, and labeled as prescribed by this part for the specific corrosive materials contained therein.

(b) Chemical kits containing limited quantities of corrosive liquids in inside packagings of not over 6 fluid ounces capacity each are excepted from labeling (except when offered for transportation by air) and the specification packaging requirements of this subchapter if all of the following requirements are complied with. In addition, shipments are not subject to Subpart F of Part 172 of this subchapter, to Part 174 of this subchapter except § 174.24 and to Part 177 of this subchapter except § 177.817.

(1) The kit may not contain any corrosive liquid for which no exemption from packaging requirements of this Part 173 is permitted by the commodity list in § 172.5(a) of this subchapter.

(2) The kit must be a strong wooden or metal container, or must be packed in a strong wooden or metal container.

(3) The corrosive liquids must be cushioned with sufficient absorbent cushioning material to completely absorb the contents of the individual containers, and must be protected from injury by other materials in the kit.

(4) The contents of the kit must be of a nature and packed so there will be no possibility of the mixture of contents causing dangerous evolution of heat or gas.

(c) Chemical kits containing corrosive liquids and other chemicals not classed as hazardous materials used for photographic processing, except as otherwise provided for in Parts 170-189 of this subchapter, must be packed in specification containers as follows:

(1) Spec. 12A (§ 178.210 of this subchapter). Fiberboard boxes with inside glass bottles not over 32 ounces capacity each, securely cushioned and separated from other inside containers. The contents of the kit must be of such nature and so packed that there will be no possibility of the mixture of contents causing dangerous evolution of heat or gas. Shipper must have established that the completed package meets test requirements prescribed by § 178.210-10 of this subchapter.

[29 FR 18725, Dec. 29, 1964, as amended by Order 66, 30 FR 5746, Apr. 23, 1965. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-61, 37 FR 5948, Mar. 23, 1972; Amdt. 173-94, 41 FR 16079, Apr. 15, 1976; Amdt. 173-94A, 41 FR 40683, Sept. 20, 1976]

§ 173.287 Chromic acid solution.

(a) For the purposes of the regulations in this part, a chromic acid solution is a solution of chromic acid (chromium trioxide) in water, with or without other acids, containing 35 percent or more of chromic acid by weight. (For solutions containing less than 35 percent chromic acid, see paragraph (c) of this section.) Packagings authorized must be of a design and be constructed of materials that will not react dangerously with or be decomposed by the chemical solution packaged therein.

(b) Chromic acid solutions must be packaged in specification containers as follows:

(1) Specification 1A (§ 178.1 of this subchapter), Glass carboy in a box. Not authorized for transportation by air.

(2) Specifications 5, 5A, 5B (§§ 178.80, 178.81, 178.82 of this subchapter). Metal barrel or drum with openings not exceeding 2.3 inches in diameter. Authorized for solutions containing chromic acid only.

(3) Specification 17E (§ 178.116 of this subchapter) steel drum. Authorized for solutions containing chromic acid only.

(4) Specification 12A or 12B (§§ 178.210, 178.205 of this subchapter). Fiberboard box with one inside glass container not over 4 fluid ounces capacity, packed in a wax-lined cylindrical fiber carton with metal ends. The bottle closure must consist of a tightly secured, fitted, ground glass stopper. Space must remain between the bottle and the inner surface of the fiber cylinder and must be filled with closely packed asbestos in sufficient quantity to completely absorb the contents of the bottle in the event of breakage. Not authorized for solutions containing nitric acid.

(5) Specification 12R (§ 178.212 of this subchapter). Paper-faced expanded polystyrene board box with inside glass bottles not over 5 pints capacity each. Not more than six 5-pint bottles may be packaged in one box. Each bottle must be well cushioned. Partitioning and cushioning must be provided to prevent bottles from shifting, or coming in contact with each other, the box wall, or the bottom. Each bottle closure must consist of a tightly secured, fitted, ground glass stopper, or a threaded-type, acid-resistant cap with a gasket or lining impervious to the acid, sufficiently resilient or cushioned to give an acid-proof, leakproof closure.

(6) Specification 33A (§ 178.150 of this subchapter). Polystyrene case (nonreusable container) with inside glass bottles not over 5 pints capacity each. Not more than four 5-pint bottles may be packaged in one outside container. Each bottle closure must consist of a tightly secured, fitted, ground glass stopper, or a threaded-type, acid-resistant cap with a gasket or lining impervious to the acid, sufficiently resilient or cushioned to give an acidproof, leakproof closure.

(7) Specification 29 (§ 178.226 of this subchapter). Mailing tube with glass bottles not over 1 ounce capacity each. Each bottle must be well cushioned. Partitioning and cushioning must be provided to prevent bottles from shifting or coming in contact with each other or the tube wall, bottom, or top.

(c) Solutions containing chromic acid in water in concentration not exceeding 35 percent by weight, with or without other acids, and which are not otherwise regulated by Subpart E of this part, must be described as "Corrosive liquids, n.o.s." In addition to the packaging and the limitations prescribed therefor in paragraph (b) of this section, solutions of this composition may also be packaged as follows:

(1) In packaging as prescribed in § 173.245, except (a) (4), (14), (15), (18), (19), and (24).

(2) Specification 21P (§ 178.225 of this subchapter). Fiber drum overpack with inside specification 2S or 2SL (§§ 178.35, 178.35a of this subchapter) polyethylene container.

(3) Specifications 5, 5A, 5B (§§ 178.80, 178.81, 178.82 of this subchapter). Metal barrel or drum with openings not exceeding 2.3 inches in diameter. Authorized for solutions containing chromic acid only.

(4) Specification 17E (§ 178.116 of this subchapter) steel drum. Authorized for solutions containing chromic acid only.

[Amdt. 173-57, 36 FR 21289, Nov. 5, 1971, as amended by Amdt. 173-94, 41 FR 16079, Apr. 15, 1976]

§ 173.288 Chloroformates.

(a) Ally chloroformate, benzyl chloroformate, ethyl chloroformate, and methyl chloroformate must be packaged as follows:

(1) Spec. 15A, 15B, or 15C (§§ 178.168, 178.169, or 178.170 of this subchapter). Wooden boxes with glass inside containers not over 1 pint each, cushioned with incombustible mineral material.

(2) Specification 1A (§ 178.1 of this subchapter). Boxed carboys. Glass bottles having nominal capacity of 3 gallons also authorized when packed and tested in accordance with requirements of specification 1A (§ 178.1 of this subchapter); necks must be protected during shipment. Not authorized for transportation by air.

(b) Allyl chloroformate may, in addition, be packed in specification 5H (§ 178.87 of this subchapter) lead-lined metal drums not over 55 gallons capacity.

(c) Spec. 16D (§ 178.187 of this subchapter). Wooden wirebound overwrap having one inside spec. 2SL (§ 178.35a of this subchapter) polyethylene container not over 55 gallons capacity. Authorized for ethyl chloroformate or methyl chloroformate only.

(d) Specification 6D or 37M (§§ 178.102, 178.134 of this subchapter). Cylindrical steel overpack with inside Specification 2S, 2SL, or 2T (§§ 178.35, 178.35a, 178.21 of this subchapter) polyethylene container. Authorized for ethyl chloroformate and methyl chloroformate only.

[29 FR 18725, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-11, 34 FR 12592, Aug. 1, 1969; Amdt. 173-94, 41 FR 16079, Apr. 15, 1976]

§ 173.289 Formic acid and formic acid solutions.

(a) Formic acid and formic acid solutions must be packed in specification containers as follows:

(1) In containers prescribed in § 173.245, except spec. 5A, 17C, 17E or 17F (§§ 178.81, 178.115, 178.116 or 178.117 of this subchapter). Metal barrels or drums.

(2) Specification 103CW or 103EW (§§ 179.200 and 179.201 of this subchapter). Tank cars. Specification 103EW tanks must be of Type 316 stainless steel.

(i) Each tank car must be marked "FORMIC ACID" in accordance with requirements in § 172.330 of this subchapter.

(3) [Reserved]

(4) Specifications MC 310, MC 311, or MC 312 (§ 178.343 of this subchapter). Tank motor vehicles.

(5) Spec. 5C (§ 178.83 of this subchapter). Metal barrels or drums.

(6) Spec. 5 (§ 178.80 of this subchapter). Metal barrels or drums of stainless steel only, with flanges for closures welded in place and having no opening exceeding 2.3 inches in diameter.

(7) Specification 17H (§ 178.118 of this subchapter). Metal drums (single-trip) equipped with bag type liners of material and construction approved by the Department. Each drum must have two diametrically opposite vent holes ¼ inch diameter in the side wall at each end in close proximity to the top curl and bottom chime. Interior of welded side seam must be covered or otherwise treated to provide a nonabrasive surface. Not authorized for transportation by air.

(8) Spec. 60 (§ 178.255 of this subchapter). Portable tanks, marked "FOR FORMIC ACID ONLY".

(9) Specification 1EX (§ 178.6 of this subchapter). Carboys in plywood drums. Not authorized for transportation by air.

(10) Spec. 1H (§ 178.13 of this subchapter). Metal crate with inside polyethylene carboy.

[29 FR 18725, Dec. 29, 1964, as amended by Order 73, 32 FR 3457, Mar. 2, 1967. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-81, 39 FR 17319, May 15, 1974; Amdt. 173-94, 41 FR 16079, Apr. 15, 1976]

§ 173.290 Mixtures of hydrofluoric and sulfuric acid.

(a) Mixtures of hydrofluoric acid and sulfuric acid, containing not more than 80 percent by weight and not less than 70 percent by weight of hydrofluoric acid and sulfuric acid combined, with the hydrofluoric acid content not less than 25 percent by weight in any case, must be packed in specification containers as follows:

(1) Spec. 5A (§ 178.81 of this subchapter). Unlined metal barrels or drums which have been subjected to an adequate passivation or neutralization process (see Note 1). Containers must be filled to not over 80 percent of capacity at 68° F. If containers are washed out with water, they must be repassivated before shipment.

NOTE 1: Each metal container, before being put into this service, must be passivated by the following or an equally efficient method: By filling drum to 90 percent of capacity with hydrofluoric acid of 58 percent strength and allowing drum to stand 48 hours at a temperature of 80° F., and then 7 hours at 140° F., the internal pressure maintained at atmospheric pressure by means of a ventilated bung.

(2) Containers not exceeding 55 gallons capacity each are authorized for carload, truckload, less-than-carload, and less-than-truckload shipment. Containers exceeding 55 gallons capacity each are authorized for carload or truckload shipments only but they must be loaded by consignor and unloaded by consignee.

(3) For less-than-carload or less-than-truckload shipments, containers must be of metal at least as heavy as 14 gauge United States standard for not over 20 gallons capacity each or 12 gauge for not over 55 gallons capacity each. Each container must be subjected to at least one of the following tests before shipment: By interior pressure of at least 15 pounds per square inch before filling or by holding for inspection for at least 24 hours after filling. In either case, each container must be vented prior to shipment.

[29 FR 18725, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16079, Apr. 15, 1976]

§ 173.291 Flame retardant compound, liquid.

(a) Flame retardant compound, liquid, must be packaged as follows:

(1) Specification 1A, 1B, or 1C (§§ 178.1, 178.2, 178.3 of this subchapter). Carboys in boxes or kegs which must be closed, and when reused must be reconditioned and tested, as provided in the specifications. Not authorized for transportation by air.

(2) Specification 1D or 1E (§§ 178.4, 178.7 of this subchapter). Glass carboys in boxes or plywood drums of not over 6.5 gallons nominal capacity. Means must be provided so that accumulated pressure in bottle may not exceed 10 pounds per square inch gauge at 130° F. (55° C.), or will vent at a pressure not to exceed 10 psig. Not authorized for transportation by air.

(3) Spec. IX (§ 178.5 of this subchapter). Boxed carboys; single-trip for export only. For shipment by common carriers by water to noncontiguous territories or possessions of the United States and foreign countries; shipments from inland points in the United States which are consigned to such destinations are authorized to be transported to ship side by rail freight in carload lots only and by motor vehicle in truckload lots only.

(4) [Reserved]

(5) [Reserved]

(6) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with inside containers which must be glass or earthenware, not over 1 gallon each, except that inside containers up to 3 gallons are authorized when only one is packed in each outside container.

(7) Spec. 28 (§ 178.8 of this subchapter). Metal-jacketed lead carboys.

(8) Specification 103B,[1] 103BW, or 111A60W5 (§§ 179.200, 179.201 of this subchapter). Tank cars.

[29 FR 18725, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-80, 39 FR 15037, Apr. 30, 1974; Amdt. 173-81, 39 FR 17319, May 15, 1974; Amdt. 173-94, 41 FR 16079, Apr. 15, 1976]

§ 173.292 Hexamethylene diamine solution.

(a) Hexamethylene diamine solution must be packed in specification containers as follows:

(1) In containers prescribed in § 173.249.

(2) Specifications MC 300, MC 301, MC 302, MC 303, MC 304, MC 305, MC 306, MC 307, MC 310, MC 311, or MC 312 (§§ 178.341, 178.342, 178.343 of this subchapter). Tank motor vehicles.

[29 FR 18725, Dec. 29, 1964, as amended by Order 73, 32 FR 3457, Mar. 2, 1967. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Admt. 173-94, 41 FR 16072, Apr. 15, 1976]

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[1] The use of existing tanks authorized but new construction not authorized.

§ 173.293 Iodine monochloride.

(a) Iodine monochloride must be packed in specification containers as follows:

(1) Spec. 15A or 15B (§ 178.168 or § 178.169 of this subchapter). Wooden boxes with inside containers not over 1 quart capacity each; or with stone or earthenware jugs not over 1 gallon capacity each.

(b) Outage (vacant space above liquid) for inside containers must be not less than 15 percent.

(c) Inside containers must be securely closed by hermetical sealing or by glass or stone stoppers ground to fit and securely fastened or by screw caps fitted with gaskets of suitable material resistant to the contents.

(d) Inside containers must be securely cushioned on all sides with incombustible cushioning material which will not produce heat when in contact with iodine monochloride.

[29 FR 18725, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16079, Apr. 5, 1976]

§ 173.294 Monochloroacetic acid, liquid.

(a) Monochloroacetic acid, liquid, must be packed in specification containers as follows:

(1) In containers prescribed in § 173.245 (a) (1), (2), (3), (6), or (7).

(2) Specification 103ANW, 103AW, 111A60W2, or 111A100F2 (§§ 179.200, 179.201 of this subchapter). Tank cars. Specification 103AW, 111A60W2, or 111A100F2 tank cars must be nickel clad at least 20 percent.

(3) Specifications MC 310, MC 311, or MC 312 (§ 178.343 of this subchapter). Tank motor vehicles. Tanks to be fabricated from 99 percent pure nickel plates, Type 304 or 316 stainless steel, or be suitably lined.

(b) Monochloroacetic acid, anhydrous, when shipped as a liquid must be shipped in specification 103ANW fabricated of 99 percent pure nickel or in specification 103AW or 111A60W2, nickel clad at least 20 percent or be provided with a suitable corrosive resistant coating or lining.

[29 FR 18725, Dec. 29, 1964, as amended by Order 73, 32 FR 3457, Mar. 2, 1967. Redesignated at 32 FR 5606, Apr. 5, 1967, as amended by Amdt. 173-80, 39 FR 15037, Apr. 30, 1974; Amdt. 173-94, 41 FR 16069, Apr. 15, 1976]

§ 173.295 Benzyl chloride.

(a) Benzyl chloride must be packed in specification containers as follows:

(1) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185 or 178.190 of this subchapter). Wooden boxes with glass or earthenware inside containers not over 1 gallon each, except that inside containers up to 3 gallons each are authorized when only one is packed in an outside container.

(2) [Reserved]

(3) Specification 1A, 1C, 1D, or 1E (§§ 178.1, 178.3, 178.4, 178.7 of this subchapter). Glass carboys in boxes, kegs or plywood drums. Not authorized for transportation by air.

(4) Spec. 1X (§ 178.5 of this subchapter). Boxed carboys; single-trip for export only. For shipment by common carriers by water to noncontiguous territories or possessions of the United States and foreign countries; shipments from inland points in the United States which are consigned to such destinations are authorized to be transported to ship side by rail freight in carload lots only and by motor vehicle in truckload lots only.

(5) Spec. 5A or 17C (single-trip) (§§ 178.81 or 178.115 of this subchapter). Metal barrels or drums with openings not exceeding 2.3 inches in diameter. Authorized for stabilized benzyl chloride only.

(6) Spec. 5K (§ 178.88 of this subchapter). Nickel drums. When shipped in unstabilized condition, the lading must be anhydrous and must be free from impurities such as iron.

(7) Spec. 5H (§ 178.87 of this subchapter). Metal barrels or drums, lead-lined.

(8) Spec. 60 (§ 178.255 of this chapter). Portable tanks. Benzyl chloride must be stabilized when loaded in unlined tanks.

(9) Specifications MC 310, MC 311, or MC 312 (§ 178.343 of this subchapter). Tank motor vehicles. Authorized for stabilized benzyl chloride only.

(10) Specifications MC 310, MC 311, or MC 312 (§ 178.343 of this subchapter). Tank motor vehicles fabricated from 99 percent pure nickel plates. All cast metal parts of the tank in contact with the lading must have a minimum nickel content of 96.7 percent. When shipped in unstabilized condition, the lading must be anhydrous and must be free from impurities such as iron.

(11) Specification 103A,[1] 103AW, 111A60W2, or 111A100F2 (§§ 179.200, 179.201 of this subchapter). Tank cars.

(12) Specification 103ANW (§§ 179.200, 179.201 of this subchapter). Tank cars All cast metal parts of the tank in contact with the lading must have a minimum nickel content of approximately 96.7 percent. When shipped in unstabilized condition, the lading must be anhydrous and must be free from impurities such as iron.

[29 FR 18725, Dec. 29, 1964, as amended by Order 73, 32 FR 3457, Mar. 2, 1967. Redesignated at 32 FR 5606, Apr. 5, 1967, as amended by Amdt. 173-80, 39 FR 15037, Apr. 30, 1974; Amdt. 173-81, 39 FR 17319, May 15, 1974; Amdt. 173-94, 41 FR 16079, Apr. 15, 1976]

§ 173.296 Di iso octyl acid phosphate.

(a) Di iso octyl acid phosphate must be packed in specification containers as follows:

(1) Spec. 17E (§ 178.116 of this subchapter). Metal drums (single-trip) with openings not exceeding 2.3 inches in diameter.

(2) Specifications MC 310, MC 311, or MC 312 (§ 178.343 of this subchapter) Tank motor vehicles.

(3) Specification 103AW, 103CW, 103EW, 111A60W2, 111A60W7, or 111A100F2 (§§ 179.200, 179.201 of this subchapter). Tank cars.

[29 FR 18725, Dec. 29, 1964, as amended by Order 73, 32 FR 3457, Mar. 2, 1967. Redesignated at 32 FR 5606, Apr. 5, 1967, as amended by Amdt. 173-80, 39 FR 15037, Apr. 30, 1974; Amdt. 173-94, 41 FR 16079, Apr. 15, 1976]

§ 173.297 Titanium sulfate solution containing not more than 45 percent sulfuric acid.

(a) Titanium sulfate solution containing not more than 45 percent sulfuric acid must be packed in specification containers as follows:

(1) Specifications MC 310, MC 311, or MC 312 (§ 178.343 of this subchapter) Tank motor vehicles, rubber-lined.

(2) Specification 103B,[1] 103BW, or 111A60W5 (§§ 179.200, 179.201 of this subchapter). Tank cars.

(3) Spec. 15A, 15B, 15C, 16A or 19A (§§ 178.168, 178.169, 178.170, 178.185 or § 178.190 of this subchapter). Wooden boxes with inside glass or earthenware containers, not over 1 gallon capacity each.

(4) Specification 6D (§ 178.102 of this subchapter). Cylindrical steel overpack with inside specification 2S (§ 178.35 of this subchapter) polyethylene container not over 30-gallons capacity. Overpack of over 15 gallons must be constructed of at least 18-gauge steel throughout.

[29 FR 18725, Dec. 29, 1964, as amended by Order 73, 32 FR 3457, Mar. 2, 1967. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-79, 39 FR 12751, Apr. 8, 1974; Amdt. 173-80, 39 FR 15037, Apr. 30, 1974; Amdt. 173-94, 41 FR 16079, Apr. 15, 1976]

§ 173.298 Memtetrahydro phthalic anhydride.

(a) Memtetrahydro phthalic anhydride must be packed in specification containers as follows:

(1) Spec. 15A, 15B, 15C, 16A or 19A (§§ 178.168, 178.169, 178.170, 178.185 or § 178.190 of this subchapter). Wooden boxes with inside glass containers not over 1-gallon capacity each.

(2) Spec. 12A (§ 178.210 of this subchapter). Fiberboard boxes with inside glass bottles not over 1-gallon capacity each. Not more than 4 inside glass bottles exceeding 5 pints capacity each shall be packed in the outside container. Shipper must have established that the completed package meets test requirements prescribed by § 178.210-10 of this subchapter.

(3) Spec. 17E (§ 178.116 of this subchapter). Metal drums (single-trip) with openings not exceeding 2.3 inches in diameter.

(4) Specification 37P (§ 178.133 of this subchapter). Steel drums with polyethylene liner (non-reusable container). Authorized only for materials that will not react with polyethylene and result in a packaging failure. Not authorized for transportation by air.

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[1] The use of existing tanks authorized but new construction not authoriezd.

[1] The use of existing tanks authorized but new construction not authorized.

[29 FR 18725, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–94, 41 FR 16079, Apr. 15, 1976]

§ 173.299 Etching acid liquid, n.o.s.

(a) Etching acid liquid shall be a mixture of nitric acid, hydrofluoric acid, having nitric acid in concentrations of not more than 60 percent by weight, hydrofluoric acid in concentrations of not less than 4 percent by weight and water not less than 24 percent by weight, and may contain acetic acid. These mixtures must be packed in specification containers as follows:

(1) Specification 12A (§ 178.210 of this subchapter). Fiberboard boxes with Specification 2E (§ 178.24a of this subchapter) inside polyethylene bottles having a minimum wall thickness of 0.030 inch and screw-cap closures. Net weight per bottle may not be over 10 pounds each. The net weight per package may not be more than 40 pounds.

(2) Spec. 37M (§ 178.134 of this subchapter). Cylindrical steel overpack with inside spec. 2S or 2SL (§ 178.35 or 178.35a of this subchapter) polyethylene container not over 30 gallons capacity.

(b) All outside shipping containers must be plainly marked "NONREUSABLE CONTAINER." All components of the package must not be reused.

[29 FR 18725, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–11, 34 FR 12592, Aug. 1, 1969; Amdt. 173–94, 41 FR 16079, Apr. 15, 1976]

§ 173.299a Tris-(1-aziridinyl) phosphine oxide.

(a) Tris-(1-aziridinyl) phosphine oxide must be packed in specification containers as follows:

(1) In containers as prescribed in § 173.245, not over 5 gallons capacity each.

Subpart G—Compressd Gases; Definition and Preparation

Source: 29 FR 18743, Dec. 29, 1964, unless otherwise noted. Redesignated at 32 FR 5606, Apr. 5, 1967.

§ 173.300 Definitions.

For the purpose of Parts 170–189 of this subchapter, the following terminology is defined:

(a) *Compressed gas.* The term "compressed gas" shall designate any material or mixture having in the container an absolute pressure exceeding 40 p.s.i. at 70° F. or, regardless of the pressure at 70° F., having an absolute pressure exceeding 104 p.s.i. at 130° F.; or any liquid flammable material having a vapor pressure exceeding 40 p.s.i. absolute at 100° F. as determined by ASTM Test D–323.

(b) *Flammable compressed gas.* Any compressed gas as defined in paragraph (a) of this section shall be classified as "flammable compressed gas" if any one of the following occurs:

(1) Either a mixture of 13 percent or less (by volume) with air forms a flammable mixture or the flammable range with air is wider than 12 percent regardless of the lower limit. These limits shall be determined at atmospheric temperature and pressure. The method of sampling and test procedure shall be acceptable to the Bureau of Explosives.

(2) Using the Bureau of Explosives' Flame Projection Apparatus (see Note 1), the flame projects more than 18 inches beyond the ignition source with valve opened fully, or, the flame flashes back and burns at the valve with any degree of valve opening.

(3) Using the Bureau of Explosives' Open Drum Apparatus (see Note 1), there is any significant propagation of flame away from the ignition source.

(4) Using the Bureau of Explosives' Closed Drum Apparatus (see Note 1), there is any explosion of the vapor-air mixture in the drum.

Note 1: A description of the Bureau of Explosives' Flame Projection Apparatus, Open Drum Apparatus, Closed Drum Apparatus, and method of tests may be procured from the Bureau of Explosives.

(c) *Non-liquefied compressed gas.* A "non-liquefied compressed gas" is a gas, other than gas in solution, which under the charged pressure is entirely gaseous at a temperature of 70° F.

(d) *Liquefied compressed gas.* A "liquefied compressed gas" is a gas which, under the charged pressure, is partially liquid at a temperature of 70° F.

(e) *Compressed gas in solution.* A "compressed gas in solution" is a non-liquefied compressed gas which is dissolved in a solvent.

(f) *Flammable range.* The term "flammable range" shall designate the difference between the minimum and maximum volume percentages of the material in air that forms a flammable compressed gas.

(g) *Filling density.* The term "filling density" shall designate the percent ratio of the weight of gas in a container to the weight of water that the container will hold at 60° F. (One pound of water equals 27.737 cubic inches at 60° F.) For example, for a liquified petroleum gas of 0.504/0.510 specific gravity, a 100-pound cylinder holds 238.1 pounds of water and the filling density is 42 percent; therefore the amount of gas permitted is 0.42×238.1 or 100 pounds.

(h) *Service pressure.* The term "service pressure" shall designate the authorized pressure marking on the container. For example, for cylinders marked "DOT 3A1800", the service pressure is 1800 psig (pounds per square inch gauge).

[29 FR 18743, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–16, 34 FR 18248, Nov. 14, 1969; Amdt. 173–54, 36 FR 18469, Sept. 15, 1971; Amdt. 173–94, 41 FR 16079, Apr. 15, 1976]

§ 173.300a Approval of independent inspection agency.

(a) Any person who (1) does not manufacture cylinders for use in the transportation of hazardous materials and (2) is not directly or indirectly controlled by any person or firm which manufactures cylinders for use in the transportation of hazardous materials, may apply to the Department of Transportation for approval as an independent inspection agency for the purpose of performing cylinder inspections and verifications required by Part 178 of this subchapter.

(b) Each application filed under this section for approval as an independent inspection agency must:

(1) Be submitted in writing to: Office of Hazardous Materials Operations, U.S. Department of Transportation, Washington, D.C. 20590;

(2) State the name, address, principal business activity, and telephone number of the applicant and the name and address of each facility where tests and inspections are to be performed;

(3) State the name, address and principal business activity of each person having any direct or indirect ownership interest in the applicant greater than three percent and of each subsidiary or division of the applicant;

(4) If the applicant is not a permanent resident of the United States, include a designation of a permanent resident of the United States as his agent for service of process in accordance with § 107.7 of this title;

(5) Set forth a detailed description of the inspection and testing facilities to be used by the applicant and the applicant's capability to perform the inspections and verify the tests required by Part 178 of this subchapter;

(6) Identify by name each individual whom the applicant proposes to employ as an inspector responsible for certifying inspection and test results and a statement of that person's qualifications; and

(7) Specify the identification or qualification number assigned to each inspector who is supervised by a certifying inspector identified in § 173.300a(b)(6).

(c) Upon the request of the Director, OHMO, the applicant shall allow the Director to inspect the applicant's inspection and testing facilities. In the case of inspection and testing facilities located outside the United States, the applicant shall bear the cost of the inspection.

(d) If, on the basis of information submitted in the application and his own investigation, the Director, OHMO, finds that the applicant is qualified to perform the inspections and verifications required by Part 178 of this subchapter for cylinders to be used in the transportation of hazardous materials, he issues an approval subject to such terms and conditions as he considers necessary.

(e) The Director, OHMO, will issue an approval as an independent inspection agency for the purpose of performing inspections and verifications within the United States to any competent and disinterested inspector of cylinders so designated by the Bureau of Explosives before May 1, 1976, who submits a copy of that designation by July 15, 1976, together with the name, the assigned identification or qualification number, and a statement of the qualifications of each person employed as an inspector under that designation to: Office of Hazardous Materials Operations, U.S. Department of Transportation, Washington, D.C. 20590.

(f) Notwithstanding any requirement of this subchapter to the contrary, between May 30, 1976, and August 15, 1976, inspections and verifications required by Part 178 may be performed within the United States by any competent and disinterested inspector so designated by the Bureau of Explosives prior to May 1, 1976.

(g) An approval issued under this section is not transferable and is effective until surrendered or withdrawn or otherwise terminated by the Director, OHMO.

(h) The holder of an approval issued under this section shall notify the Director, OHMO, within 20 days after the date there is any change in the information submitted in the application for the approval.

(i) Upon the request of the Director, OHMO, the holder of an approval issued under this section shall allow the Director to inspect the holder's inspection and testing facilities and shall make available for inspection the holder's records pertaining to inspections and verifications required by Part 178 of this subchapter. In the case of inspection and testing facilities located outside the United States and records made available for inspection outside the United States, the holder shall bear the costs of inspection.

[Amdt. 173-97, 41 FR 18414, May 4, 1976]

§ 173.300b Approval of non-domestic chemical analyses and tests.

(a) Any person who manufactures cylinders outside the United States may apply to the Department for approval to have the chemical analyses and tests of those cylinders required by Part 178 performed outside the United States for the purpose of qualifying them for use in the transportation of hazardous materials to, from or within the United States.

(b) Each application filed under this section for approval to perform chemical analyses and tests of cylinders outside the United States must:

(1) Be submitted in writing to: Office of Hazardous Materials Operations, U.S. Department of Transportation, Washington, D.C. 20590;

(2) State the name, address, and telephone number of the applicant and the name, address and a description of each facility at which cylinders are to be manufactured and chemical analyses and tests are to be performed;

(3) If the applicant is not a resident of the United States, include a designation of a permanent resident of the United States as his agent for service of process in accordance with § 107.7 of this title;

(4) Set forth complete details concerning the dimension, materials of construction, wall thickness, water capacity, shape, type of joints, location and size of openings and other pertinent physical characteristics of each specification cylinder for which approval is being requested, including calculations for cylinder wall stress and wall thickness which may be shown on a drawing or on separate sheets attached to a descriptive drawing. If units of weights and measures are expressed in the metric system, they must also be stated in the English system equivalents; and

(5) Identify the independent inspection agency to be used.

(c) Upon the request of the Director, OHMO, the applicant shall allow the Director to inspect the applicant's cylinder manufacturing and testing facilities and shall provide such materials and cylinders for analyses and tests as the Director may specify. The applicant shall bear the cost of the inspections, analyses, and tests.

(d) If, on the basis of the information submitted in the application and his own investigation, the Director, OHMO, finds that the applicant has the proper manufacturing equipment and facilities and is otherwise capable of insuring the proper performance of the chemical analyses and tests required by Part 178 of this subchapter for cylinders to be used in the transportation of hazardous materials, the issues and approval, subject to such terms and conditions as he considers necessary.

(e) An approval issued under this section is not transferable and is effective until surrendered or withdrawn or otherwise terminated by the Director, OHMO.

(f) The holder of an approval issued under this section shall notify the Director, OHMO, within 20 days after the date there is any change in the information submitted in the application for the approval.

(g) Upon the request of the Director, OHMO, the holder of an approval issued under this section shall allow the Director to inspect the holder's cylinder manufacturing and testing facilities, any cylinder manufactured under that approval, the holder's inspection and test records, and technical data files pertaining to any cylinder manufactured under that approval. In the case of facilities located outside the United States, or cylinders, records or files made available for inspection outside the United States, the holder shall bear the costs of inspection.

[Amdt. 173-97, 41 FR 18415, May 4, 1976]

§ 173.300c Termination of approval.

(a) The Director, OHMO, may terminate an approval issued under § 173.300a or § 173.300b of this subpart if he determines—

(1) That information upon which approval was based is fraudulent or substantially erroneous;

(2) That the holder has not complied with Subchapter C of this chapter;

(3) That, in the case of an independent inspection agency, the agency or an employee thereof is or appears to be controlled or improperly influenced by cylinder manufacturing interests;

(4) That the holder is subject to an outstanding final judgment of a Federal court which concerns the enforcement of Subchapter C and which has not been satisfied within a reasonable period of time; or

(5) That continuation of the approval is not consistent with the requirements of transportation safety.

(b) The Director, OHMO, before he terminates an approval issued under § 173.300a or § 173.300b of this subpart, notifies the holder in writing of the reasons therefor and provides the holder an opportunity to show why the approval should not be terminated.

[Amdt. 173-97, 41 FR 18415, May 4, 1976]

§ 173.301 General requirements for shipment of compressed gases in cylinders.[1]

(a) *Gases capable of combining chemically.* A cylinder charged with compressed gas must not contain gases or materials that are capable of combining chemically with each other or with the cylinder material so as to endanger its serviceability. See § 173.34(e)(16) regarding the requalification of a cylinder that previously contained a corrosive liquid.

(b) *Ownership of container.* A container charged with a compressed gas must not be shipped unless it was charged by or with the consent of the owner of the container.

(c) *Retest of container.* A container for which prescribed periodic retest has become due must not be charged and shipped until such retest has been properly made.

(d) *Manifolding containers in transportation.* No means of interconnecting such as manifolding of individual containers may be employed for the transportation of compressed gases, except as hereinafter authorized. Containers so manifolded shall be supported and held together as a unit by structurally adequate means. Safety relief devices on manifolded horizontal containers charged with flammable compressed gas shall be arranged to discharge upward and unobstructed to the open air in such a manner as to prevent any impingement of escaping gas upon the containers.

(1) Manifolding is authorized for containers of the following gases: argon, air, carbon dioxide, helium, neon, nitrogen, nitrous oxide or oxygen provided that each container is individually equipped with safety relief devices as required by § 173.34 (d) or § 173.315(i).

(2) Manifolding is authorized for cylinders of the following nonliquefied gases: Boron trifluoride, carbon monoxide, ethylene, hydrogen, hydrocarbon gases, and methane, provided individual cylinders are equipped with approved safety relief devices as required by § 173.34(d) or § 173.315(i): *And provided further,* That each cylinder is equipped with individual shutoff valve, or valves, that must be tightly closed while in transit. Manifold branch lines to these and individual shutoff valves must be sufficiently flexible to prevent injury to the valves which otherwise might result from the use of rigid branch lines. A temperature measuring device may be inserted in one cylinder of a manifold installation in place of the shutoff valve.

(3) Manifolding is authorized for containers of the following gases: Ethane, ethylene, liquefied hydrocarbon gas, hydrogen chloride (anhydrous), lique-

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[1] Requirements covering cylinders are also applicable to spherical pressure vessels.

fied petroleum gas and propylene provided each container is equipped with approved safety relief devices as required by § 173.34(d) or § 173.315(i): *And provided further*, That each container is equipped with an individual shutoff valve, or valves, that must be tightly closed while in transit. Each container must be separately charged and means must be provided to insure that no interchange of container contents can occur during transportation. Manifolded branch lines to these individual shutoff valves must be sufficiently flexible to prevent injury to the valves which otherwise might result from the use of rigid branch lines.

(4) Manifolding is authorized for containers of acetylene, provided that each container is individually equipped with approved safety relief devices as required by § 173.34(d), and further provided that each container is equipped with an individual shutoff valve, or valves, which shall be tightly closed while in transit. Manifold branch lines to these individual shutoff valves shall be sufficiently flexible to prevent injury to the valves which otherwise might result from the use of rigid branch lines. All manifold containers shall be transported in a vertical position. For the checking of tare weights or for replacement of solvent the container shall be removed from the manifold. This requirement is not intended to prohibit the charging of the acetylene cylinders while manifolded.

(5) Manifolding is authorized for cargo tanks of the following gas provided individual cargo tanks are equipped with the safety relief valves and gauging devices, as required by § 173.315 (h) and (i); and further provided, that each cargo tank is equipped with individual valve, or valves, which shall be tightly closed while in transit and that each such container must be separately charged: anhydrous ammonia.

(e) *Container pressure*. The pressure in the container at 70° F. must not exceed the service pressure for which the container is marked or designated, except as provided in § 173.302(c).

NOTE 1: In certain cases with liquefied gases the pressure at 70° F. must be lower than the marked service pressure to avoid having a greater pressure at a temperature of 130° F. than is permitted.

(1) For authorized containers not marked with a service pressure, the service pressure is designated as follows:

Specification marking	Service pressure—psig
DOT 3	1,800
3E	1,800
4	300
8	250
9	200
25	300
33	480
38	250
40	200
41	240

(2) For containers made prior to the effective date of specifications, the service pressure is designated as the same as for the same type of container made in accordance with current specifications.

(f) *Container pressure at 130° F.* The pressure in the container at 130° F. shall not exceed 5/4 times the service pressure, except:

(1) Containers charged with acetylene, liquefied nitrous oxide and liquefied carbon dioxide.

(2) When a cylinder is charged in accordance with § 173.302(c), the pressure in the cylinder at 130° F. must not exceed 5/4 times the filling pressure authorized therein.

(g) *Container valve protection*. Containers charged with flammable, corrosive, or noxious gases, must have their valves protected by one of the following methods.

(1) By equipping the containers with securely attached metal caps of sufficient strength to protect the valves from injury during transit.

(2) By boxing or crating the containers so as to give proper protection to the valves.

(3) By so constructing the containers that the valve is recessed into the container or otherwise protected so that it will not be subjected to a blow when the container is dropped on a flat surface.

(4) By loading the containers compactly in an upright position and securely bracing in cars or motor vehicles, when loaded by the consignor and to be unloaded by the consignee.

(5) By equipping with valves strong enough to avoid injury during transit for containers containing non-liquefied gas under pressure not exceeding 300 psi at 70° F.

(h) *Compressed gas containers*. Compressed gases must be in metal containers built in accordance with the DOT specifications, as shown below, in effect at the time of manufacture, and marked as required by the specification and the regulation for retesting if applicable;

CONTAINERS

DOT-2P
2Q
ICC-3[1]
DOT-3A
DOT-3AX
3A480X
3AA
DOT-3AAX
3B
3BN
3C

DOT-3D
3E
3HT
DOT-3T
4
4A
4AA
4B
4B240FLW
4B240X
4BA

DOT-4BW
4B240ET
4C
4D
4DA
4DS
4E
4L
5
5F
8

DOT-8AL.
9.
ICC-25.[1]
26.[1]
33.[1]
38.[1]
DOT-39.
40.
41.

[1] Use of existing cylinders authorized, but new construction not authorized.

(i) *Foreign cylinders in domestic use*. A charged cylinder manufactured outside the United States may not be offered for transportation to, from, or within the United States unless it has been manufactured, inspected, and tested in accordance with the applicable DOT specification set forth in Part 178 of this subchapter.

(j) *Charging of foreign cylinders for export*. Unless it has been manufactured, inspected, and tested in accordance with the applicable DOT specification set forth in Part 178 of this subchapter, a cylinder manufactured outside the United States and received in the United States for charging with compressed gas may be charged and shipped for export only.

(1) Provided that they are retested in accordance with § 173.34(e). This retest may be omitted only if the container can be definitely identified as having been retested under this provision within the prescribed retest period, and

(2) Provided further that the maximum filling density and service pressure for each container shall be in accordance with all packing requirements of this part for the compressed gas involved.

(3) Records showing the results of the tests made on all foreign containers must be preserved for inspection until the next scheduled retest date.

(4) Bill of lading or other shipping paper shall, when possible, identify the containers and shall carry the following certification: "These containers have been retested and refilled in accordance with the DOT requirements for export".

(k) *Outside packagings*. Specifications 2P, 2Q, 3E, 3HT, 4D, 4DA, 4DS, 9, 39, 40, and 41 must be shipped in strong outside packagings.

(1) Outside packagings must provide protection for the complete cylinder and against accidental functioning of and damage to valves under conditions normally incident to transportation.

(l) Specifications 3AX, 3AAX, and 3T cylinders are authorized for transportation only when horizontally mounted on a motor vehicle and when valves and safety devices are protected, as follows:

(1) Each cylinder must be fixed at one end of the vehicle with provision for thermal expansion at the opposite end attachment.

(2) The valve and safety relief device protective structure must be sufficiently strong to withstand a force equal to twice the weight involved with a safety factor of four, based on the ultimate strength of the material used; and

(3) Each discharge for a safety relief device on a cylinder containing a flammable gas must be upward and unobstructed.

[29 FR 18743, Dec. 29, 1964, as amended by Order 71, 31 FR 9071, July 1, 1966. Redesignated at 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173–11, 34 FR 12592, Aug. 1, 1969; Amdt. 173–34, 35 FR 13836, Sept. 1, 1970; Amdt. 173–44, 36 FR 5421, Mar. 23, 1971; Amdt. 173–49, 36 FR 13094, July 14, 1971; Amdt. 173–53, 36 FR 16580, Aug. 24, 1971; Amdt. 173–55, 36 FR 20606, Oct. 27, 1971; Amdt. 173–64, 37 FR 14587, July 21, 1972; Amdt. 173–75, 38 FR 21990, Aug. 15, 1973; Amdt. 173–97, 41 FR 18415, May 4, 1976]

§ 173.302 Charging of cylinders with non-liquefied compressed gases.

(a) *Detailed requirements.* Nonliquefied compressed gases (except gas in solution or poisonous gas) for which charging requirements are not definitely prescribed in § 173.304(a)(2) must be shipped, subject to § 173.301, and § 173.305 in specification containers as follows:

(1) Specification 3,[1] 3A, 3AA, 3B, 3C, 3D, 3E, 4, 4A, 4B, 4BA, 4BW, 4C, 25,[1] 26,[1] 33,[1] or 38[1] (§§ 178.36, 178.37, 178.38, 178.40, 178.41, 178.42, 178.48, 178.49, 178.50, 178.51, 178.52, 178.61 of this subchapter). See §§ 173.34 and 173.301(e).)

NOTE 1: Authorized cylinders containing oxygen which is continuouosly fed to tanks containing live fish may be shipped irrespective of the provisions of § 173.24.

Spec. DOT 3HT (§ 178.44 of this subchapter) cylinders for aircraft use only having a maximum service life of 15 years. Authorized only for nonflammable gases. Cylinders must be equipped with safety relief devices only of the frangible disc type which meet the requirements of § 173.34(d). Each frangible disc must have a rated bursting pressure which does not exceed 90 percent of the minimum required test pressure of the cylinder. Discs with fusible metal backing are not permitted. Spec. 3HT cylinders may be shipped only when packed in strong outside packagings.

(3) Specification 3AX, 3AAX, or 3T (§§ 178.36, 178.37, 178.45 of this subchapter) cylinders are authorized only for the following nonliquified gases: air, argon, carbon monoxide, ethane, ethyene, helium, hydrogen, methane, neon, nitrogen, or oxygen, except that specification 3T is not authorized for hydrogen.

(4) Specification 39 (§ 178.65 of this subchapter). For flammable gases, internal volume must not exceed 75 cubic inches.

(b) *Filling limits.* (See § 173.301(e).)

(c) *Special filling limits for Specifications 3A, 3AX, 3AA, 3AAX, and 3T cylinders.* Specifications 3A, 3AX, 3AA, 3AAX, and 3T (§§ 178.36, 178.37, 178.45 of this subchapter) cylinders may be charged with compresed gases, other than liquefied, dissolved, poisonous, or flammable gases to a pressure 10 percent in excess of their marked service pressure, provided:

(1) That such cylinders are equipped with frangible disc safety relief devices (without fusible metal backing) having a bursting pressure not exceeding the minimum prescribed test pressure.

(2) That the elastic expansion shall have been determined at the time of the last test or retest by the water jacket method.

(3) That either the average wall stress or the maximum wall stress shall not exceed the wall stress limitation shown in the following table (see Notes 1 and 2):

Type of steel	Average wall stress limitation	Maximum wall stress limitation
Plain carbon steels over 0.35 carbon and medium manganese steels	53,000	58,000
Steels of analysis and heat-treatment specified in spec. 3AA	67,000	73,000
Steel of analysis and heat treatment specified in Spec. DOT-3T	87,000	94,000
Plain carbon steels less than 0.35 carbon made prior to 1920	45,000	48,000

NOTE 1: The average wall stress shall be computed from the elastic expansion data using the following formula:

$$S=\frac{1.7EE}{KV}-0.4P$$

where—

S=wall stress, pounds per square inch;
EE=elastic expansion (total less permanent) in cubic centimeters;
K=factor x 10^{-7} experimentally determined for the particular type of cylinder being tested;
V=internal volume in cubic centimeter (1 cubic inch=16.387 cubic centimeters);
P=test pressure, pounds per square inch.

Formula derived from formula of Note 2 and the following:

$$EE=PKV\times\frac{D^2}{D^2-d^2}$$

NOTE 2: The maximum wall stress shall be computed from the formula:

$$S=P\,\frac{(1.3D^2+0.4d^2)}{D^2-d^2}$$

where—

S=wall stress, pounds per square inch;
P=test pressure, pounds per square inch;
D=outside diameter, inches;
$d=D-2t$, where t=minimum wall thickness determined by a suitable method

(4) That an external and internal visual examination made at the time of test or retest shows the cylinder to be free from excessive corrosion, pitting, or dangerous defects.

(5) That a plus sign (+) be added following the test date marking on the cylinder to indicate compliance with subparagraphs (2), (3), and (4) of this paragraph.

(d) *Fluorine.* Fluorine must be shipped in Specification 3A1000, 3AA1000, or 3BN400 (§ 178.36, § 178.37 or § 178.39 of this subchapter) cylinders without safety relief device and equipped with valve protection cap. Such containers must not be charged to over 400 psig at 70° F. and must not contain over 6 pounds of gas.

(e) *Verification of container pressure.* (1) Each day, the pressure in a container representative of that day's compression must be checked by the charging plant after the container has cooled to a settled temperature and a record of this test kept for at least 30 days.

(f) *Carbon monoxide.* Carbon monoxide must be shipped in a specification 3A, 3AX, 3AA, 3AAX, 3, 3E, or 3T (§§ 178.36, 178.37, 178.42, 178.45 of this subchapter) cylinder having a minimum service pressure of 1,800 p.s.i.g. The pressure in the cylinder must not exceed 1000 p.s.i.g. at 70° F. except that if the gas is dry and sulfur free, a cylinder may be charged to five-sixths the cylinder service pressure or 2,000 p.s.i.g., whichever is the lesser.

[29 FR 18743, Dec. 29, 1964, as amended by Order 67, 30 FR 7422, June 5, 1965. Redesignated at 32 FR 5606, and amended by Amdt. 173–19, 35 FR 5331, Mar. 31, 1970; Amdt. 173–44, 36 FR 5421, Mar. 23, 1971; Amdt. 173–53, 36 FR 16580, Aug. 24, 1971; Amdt. 173–64, 37 FR 14588, July 21, 1972; Amdt. 173–75, 38 FR 21990, Aug. 15, 1973; Amdt. 173–75, 38 FR 22552, Aug. 22, 1973; Amdt. 173–94, 41 FR 16079, Apr. 15, 1976]

§ 173.303 Charging of cylinders with compressed gas in solution (acetylene).

(a) *Cylinder, filler and solvent requirements.* (Refer to applicable parts of Specs. DOT 8 and DOT 8AL.) Acetylene gas must be shipped in cylinders, spec. 8 or 8AL (§ 178.59 or § 178.60 of this subchapter). The cylinders shall consist of metal shells filled with a porous material that has been tested with satisfactory results by the Bureau of Explosives, and this material must be charged with a suitable solvent.

(1) The specific gravity of acetone solvent in acetylene cylinders must be 0.796 or over at 15.5° C. (59.9° F.).

(2) The amount of solvent added in the refilling operation must not cause the tare weight of the cylinder to exceed its marked tare weight. The tare weight includes the weight of the cylinder shell, porous filling, valve, safety relief devices and solvent, but without removable cap.

(b) *Filling limits.* The pressure in cylinders containing acetylene gas must not exceed 250 psi at 70° F., and in case the cylinders are marked for a lower allowable charging pressure, at 70° F., then that pressure must not be exceeded.

(c) *Data requirements on filler and solvent.* Cylinders containing acetylene gas must not be shipped unless they were charged by or with the consent of the owner, and by a person, firm, or company having possession of complete information as to the nature of the porous filling, the kind and quantity of solvent in the cylinders, and the meaning of such markings on the cylinders as are prescribed by the Department's regulations and specifications applying to containers for the transportation of acetylene gas.

(d) *Verification of container pressure.* (1) Each day, the pressure in a container representative of that day's compression must be checked by the charging plant after the container has cooled to a settled temperature and a record of this test kept for at least 30 days.

[29 FR 18743, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–94, 41 FR 16079, Apr. 15, 1976]

§ 173.304 Charging of cylinders with liquefied compressed gas.

(a) *Detailed charging requirements.* Liquefied gases shall be charged in accordance with the specific provisions of subparagraph (2) of this paragraph or paragraph (e) of this section. Where charging requirements are not specifically prescribed, liquefied gases, except gas in solution or poisonous gas, must be shipped, subject to the applicable paragraphs under General Requirements for Shipment (see § 173.301), the charging requirements of this section for liquefied compressed gas, or the charging requirements for mixtures (see § 173.305), in containers manufactured under specifications, as follows:

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[1] Use of existing cylinders authorized, but new construction not authorized.

(1) Specifications 3,[1] 3A, 3AA, 3B, 3BN, 3D, 3E, 4, 4A, 4B, 4BA, 4B-ET, 4BW, 9,[1] 25,[1] 26,[1] 38,[1] 39, 40,[1] or 41[1] (§§ 178.36, 178.37, 178.38, 178.39, 178.41, 178.42, 178.48, 178.49, 178.50, 178.51, 178.55, 178.61, 178.65 of this subchapter), except that no specification 9, 39, 40, or 41 packaging may be charged and shipped with a mixture containing a pyrophoric liquid, carbon bisulfide (disulfide), ethyl chloride, ethylene oxide, nickel carbonyl, spirits of nitroglycerin, or poisonous material (Class A, B, or irritating material), unless specifically authorized in this part.

(i) For flammable gases, the internal volume of a specification 39 cylinder must not exceed 75 cubic inches.

(2) The following restrictions must be complied with for the gases named:

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[1] Use of existing cylinders authorized, but new construction not authorized.

Kind of gas	Maximum permitted filling density (see Note 1)	Containers marked as shown in this column or of the same type with higher service pressure must be used except as provided in § 173.34 (a), (b), § 173.301(j) (see notes following table).
	Percent	
Anhydrous ammonia	54	DOT-4; DOT-3A480; DOT-3AA480; DOT-3A480X; DOT-4A480; DOT-3; DOT-4AA480; DOT-3E1800.
Argon, pressurized liquid	115	DOT-4L200.
Carbon dioxide, liquefied (see Notes 4, 7, and 8).	68	DOT-3A1800; DOT-3AX1800; DOT-3AA1800; DOT-3AAX1800; DOT-3; DOT-3E1800; DOT-3T1800; DOT-3HT2000; DOT-39.
Carbon dioxide-nitrous oxide mixture (see Notes 7 and 8).	68	DOT-3A1800; DOT-3AX1800; DOT-3AA1800; DOT-3AAX1800; DOT-3; DOT-3E1800; DOT-3T1800; DOT-3HT2000; DOT-39.
Chlorine (see Note 2)	125	DOT-3A480; DOT-3AA480; DOT-25; DOT-3; DOT-3BN480; DOT-3E1800.
Cyclopropane (see Notes 8 and 9)	55	DOT-3A225, DOT-3A480X, DOT-3AA225, DOT-3B225; DOT-4A225; DOT-4AA480, DOT-4B225; DOT-4BA225; DOT-4BW225; DOT-4B240ET; DOT-3; DOT-3E1800; DOT-39.
Dichlorodifluoromethane (see Note 8)	119	DOT-3A225; DOT-3AA225; DOT-3B225, DOT-4A225; DOT-4B225; DOT-4BA225; DOT-4BW225; DOT-4B240ET; DOT-4E225; DOT-9; DOT-39; DOT-41; DOT-3E1-00.
Dichlorodifluoromethane and difluoroethane mixture (constant boiling mixture) (see Note 8).	Not liquid full at 130° F.	DOT-3A240; DOT-3AA240, DOT-3B240; DOT-3E1800; DOT-4A240; DOT-4B240; DOT-4BA240; DOT-4BW240; DOT-4E240; DOT-9, DOT-39.
Difluoroethane	79	DOT-3A150; DOT-3AA150; DOT-3B150; DOT-4B150; DOT-4BA225; DOT-4BW225; DOT-3E1800.
Difluoromonochloroethane (see Note 8).	100	DOT-3A150; DOT-3AA150; DOT-3B150, DOT-4B150; DOT-4BA225; DOT-4BW225, DOT-3E1800; DOT-39.
Dimethylamine, anhydrous	59	DOT-3A150; DOT-3AA150; DOT-3B150; DOT-4B150; DOT-4BA225; DOT-4BW225; ICC-3E1800.
Ethane (see Notes 8 and 9)	35.8	DOT-3A1800; DOT-3AX1800; DOT-3AA1800; DOT-3AAX1800; DOT-3; DOT-3E1800; DOT-3T1800; DOT-39.
Ethane (see Notes 8 and 9)	36.8	DOT-3A2000; DOT-3AX2000; DOT-3AA2000; DOT-3AAX2000; DOT-3T2000; DOT-39.
Ethylene (see Notes 8 and 9)	31.0	DOT-3A1800; DOT-3AX1800; DOT-3AA1800; DOT-3AAX1800; DOT-3; DOT-3E1800; DOT-3T1800; DOT-39.
Ethylene (see Notes 8 and 9)	32.5	DOT-3A2000; DOT-3AX2000; DOT-3AA2000; DOT-3AAX2000; DOT-3T2000; DOT-39.
Ethylene (see Notes 8 and 9)	35.5	DOT-3A2400; DOT-3AX2400; DOT-3AA2400; DOT-3AAX2400; DOT-3T2400; DOT-39.
Hydrogen chloride	65	DOT-3A1800; DOT-3AA1800, DOT-3AX1800; DOT-3AAX1800; DOT-3; DOT-3E1800.
Hydrogen sulfide (see Note 10)	62.5	DOT-3A480; DOT-3AA480; DOT-3B480; DOT-4A480; DOT-4B480; DOT-4BA480; DOT-4BW480; DOT-26-480; DOT-3E1800.
Insecticide, liquefied gas (see Note 8)	Not liquid full at 130° F.	DOT-3A300; DOT-3AA300; DOT-3B300; DOT-4B300; DOT-4BA300; DOT-4BW300; DOT-9; DOT-40; DOT-41; DOT-3E1800.
Liquefied nonflammable gases, liquid other than those classified as flammable, corrosive, or poisonous, and mixtures or solutions thereof, charged with nitrogen, carbon dioxide, or air (see Notes 7 and 8).	Not liquid full at 130° F.	DOT-3A300; DOT-3AA300; DOT-3HT900; DOT-4B300; DOT-4BA300; DOT-4BW300; DOT-4D300; DOT-4DA500; DOT-4DS500; DOT-3E1800; DOT-39.
Methylacetylene-propadiene, stabilized (see Note 5).	Not liquid full at 130° F.	DOT-4B240, without brazed seams; DOT-4BA240, without brazed seams; DOT-3A240, DOT-3AA240; DOT-3B240; DOT-3E1800; DOT-4BW240; DOT-4E240; DOT-4B240ET; DOT-4; DOT-41.
Methyl chloride	84	DOT-3A225; DOT-3AA225; DOT-3B225; DOT-4A225; DOT-4B225; DOT-4BA225; DOT-4BW225; DOT-3; DOT-4; DOT-25; DOT-26-300; DOT-38; DOT-3E1800; DOT-4B240ET. Cylinders complying with DOT-3A150; DOT-3B150; DOT-4A150, and DOT-4B150 manufactured prior to Dec. 7, 1936 are also authorized.

See notes at end of table.

Kind of gas	Maximum permitted filling density (see Note 1)	Containers marked as shown in this column or of the same type with higher service pressure must be used except as provided in § 173.34 (a), (b), § 173.301(j) (see notes following table).
	Percent	
Methyl mercaptan	80	DOT-3A240; DOT-3AA240; DOT-3B240; DOT-4B240; DOT-4B240ET; DOT-3E1800; DOT-4BA240; DOT-4BW240.
Monochlorodifluoromethane (see Note 8)	105	DOT-3A240; DOT-3AA240; DOT-3B240; DOT-4B240; DOT-4BA240; DOT-4BW240; DOT-4B240ET; DOT-4E240; DOT-39; DOT-41; DOT-3E1800.
Monochloropentafluoroethane (see Note 8).	110	DOT-3A225; DOT-3AA225; DOT-3B225; DOT-4A225; DOT-4B225; DOT-4BA225; DOT-4BW225; DOT-3E1800; DOT-39.
Monochlorotrifluoromethane (see Note 8)	100	DOT-3A1800; DOT-3AA1800; DOT-3; DOT-3E1800; DOT-39.
Monomethylamine, anhydrous	60	DOT-3A150; DOT-3AA150; DOT-3B150; DOT-4B150; DOT-4BA225; DOT-4BW225; DOT-3E1800.
Nitrogen, pressurized liquid	68	DOT-4L200.
Nitrosyl chloride	110	DOT-3BN400 only
Nitrous oxide (see Notes 7 and 8)	68	DOT-3A1800; DOT-3AX1800; DOT-3AA1800; DOT-3AAX1800; DOT-3; DOT-3E1800; DOT-3T1800; DOT-3HT2000; DOT-39.
Oxygen, pressurized liquid	96	DOT-4L200.
Sulfur dioxide (see Note 8)	125	DOT-3A225; DOT-3AA225; DOT-3B225; DOT-4A225; DOT-4B225; DOT-4BA225; DOT-4BW225; DOT-4B240ET; DOT-3; DOT-4; DOT-25; DOT-26-150; DOT-38; DOT-39; DOT-3E1800.
Sulfur hexafluoride	110	DOT-3A1000; DOT-3AA1000; DOT-3; DOT-3E1800.
Sulfuryl fluoride	106	DOT-3A480; DOT-3AA480; DOT-4B480; DOT-4BA480. DOT-4BW480.
Tetrafluoroethylene, inhibited	90	DOT-3A1200; DOT-3AA1200; DOT-3E1800.
Trifluorochloroethylene	115	DOT-3A300; DOT-3AA300; DOT-3B300; DOT-4A300; DOT-4B300; DOT-4BA300; DOT-4BW300; DOT-3E1800.
Trimethylamine, anhydrous	57	DOT-3A150; DOT-3AA150; DOT-3B150; DOT-4B150; DOT-4BA225; DOT-4BW225; DOT-3E1800.
Vinyl chloride (see Note 5)	84	DOT-4B150, without brazed seams; DOT-4BA225, without brazed seams; DOT-4BW225; DOT-3A150; DOT-3AA;150; DOT-25; DOT-3E1800.
Vinyl fluoride, inhibited	62	DOT-3A1800; DOT-3AA1800; DOT-3E1800.
Vinyl methyl ether, inhibited (see Note 5).	68	DOT-4B150, without brazed seams; DOT-4BA225, without brazed seams; DOT-4BW225; DOT-3A150, DOT-3AA150 DOT-3B150; DOT-25; DOT-3E1800.

NOTE 1: The "filling density" is hereby defined as the percent ratio of the weight of gas in a container to the weight of water that the container will hold at 60° F. (1 lb. of water=27.737 cubic inches at 60° F.).

NOTE 2: Cylinders purchased after Oct. 1, 1944, for the transportation of chlorine must contain no aperture other than that provided in the neck of the cylinder for attachment of a valve equipped with an approved safety relief device. Cylinders purchased after Nov. 1, 1935, and charged with chlorine must not contain over 150 pounds of gas.

NOTE 3: [Reserved]

NOTE 4: Special carbon dioxide mining devices containing a heating element and charged with not over 6 pounds of carbon dioxide may be filled to a density of not over 85 percent, provided the cylinder is made of steel with a calculated bursting pressure in excess of 39,000 psi, be fitted with a frangible disc that will operate at not over 57 percent of that pressure, and be able to withstand a drop of 10 feet when striking crosswise on a steel rail while under a pressure of at least 3,000 psi. Such devices must be shipped in strong boxes or must be wrapped in heavy burlap and bound by 12-gauge wire with the wire completely covered by friction tape. Wrapping must be applied so as not to interfere with the functioning of the frangible disc safety relief device. Shipments must be described as "liquefied carbon dioxide gas (mining device)" and marked, labeled, and certified as prescribed for liquefied carbon dioxide.

NOTE 5: All parts of valve and safety relief devices in contact with contents of cylinders must be of a metal or other material, suitably treated if necessary, which will not cause formation of any acetylides.

Note 6: [Reserved]

NOTE 7: Spec. DOT3HT (§ 178.44 of this subchapter) cylinders for aircraft use only having a maximum service life of 15 years. Authorized only for nonflammable gases. Cylinders must be equipped with safety relief devices only of the frangible disc type which meet the requirements of § 173.34(d). Each frangible disc must have a rated bursting pressure which does not exceed 90 percent of the minimum required test pressure of the cylinder. Discs with fusible metal backing are not permitted. Spec. 3HT cylinders may be shipped only when packed in strong outside packagings.

NOTE 8: See § 173.301(k).

NOTE 9: When used for shipment of flammable gases, the internal volume of a specification 39 cylinder must not exceed 75 cubic inches.

NOTE 10: Each valve outlet must be sealed by a threaded cap or a threaded solid plug.

(b) *Filling limits.* (See § 173.301(f).)

(1) For a liquefied compressed gas the liquid portion of the content at 130° F. must not completely fill the container.

NOTE 1: Maximum filling densities are permitted by paragraph (a)(2) of this section for certain liquefied compressed gases, having critical temperatures below 130° F. that result in the container being liquid full below the critical temperature, but because of compressibility of the liquids, the maximum pressure requirements of § 173.301(f) are met up to and including 130° F.

NOTE 2: Cylinders containing vinyl fluoride, inhibited, may be liquid full at 130° F. provided the pressure at the critical temperature does not exceed one and one-fourth times the service pressure.

(2) The pressure in DOT-4L cylinders (§ 178.57 of this subchapter) must be limited by a pressure controlling valve so sized and set as to limit the pressure to one and one-fourth times the marked service pressure. For hydrogen, a valve must be set as specified in § 173.316(a)(2). The design and installation of pressure-controlling valves must be such as to assure that they will not malfunction because of frost accumulation. The liquid portion of the gas must not completely fill the cylinder. For DOT-4L cylinders insulated by a vacuum, the pressure control valve must be set at least 15 psi lower than one and one-fourth times the marked service pressure. The other paragraphs of this section do not apply to DOT-4L cylinders.

(c) *Verification of content in cylinder.* (1) Liquefied gases must be charged by weight, by volume measurement of liquid, charging line, by the use of proper scales, or when lower in pressure than required for liquefaction a pressure-temperature chart may be used in charging to insure that the service pressure at 70° F. times 5/4 will not be exceeded at 130° F.

(2) Except as noted in paragraph (d)(4) of this section, the amount of liquefied gas charged into a container must be determined by weight, or if charged at a pressure lower than the liquefaction point, by pressure shown on a chart for the specific gas. Weight must be checked, after disconnecting from the charging line, by the use of proper scales.

(d) *Requirements for liquefied petroleum gas.* (1) Filling density limited as follows:

Minimum specific gravity of the liquid material at 60° F.	Maximum filling density in percent of the water-weight capacity of the container	Minimum specific gravity of the liquid material at 60° F.	Maximum filling density in percent of the water-weight capacity of the container
0.271-0.289	26	0.504-0.510	42
0.290-0.306	27	0.511-0.519	43
0.307-0.322	28	0.520-0.527	44
0.323-0.338	29	0.528-0.536	45
0.339-0.354	30	0.537-0.544	46
0.355-0.371	31	0.545-0.552	47
0.372-0.398	32	0.553-0.560	48
0.399-0.425	33	0.561-0.568	49
0.426-0.440	34	0.569-0.576	50
0.441-0.452	35	0.577-0.584	51
0.453-0.462	36	0.585-0.592	52
0.463-0.472	37	0.593-0.600	53
0.473-0.480	38	0.601-0.608	54
0.481-0.488	39	0.609-0.617	55
0.489-0.495	40	0.618-0.626	56
0.496-0.503	41	0.627-0.634	57

(2) Subject to § 173.301(f), any filling density percentage prescribed in this section is authorized to be increased by 2 for liquefied petroleum gas in spec. 26 or 3 cylinders or in spec. 3A marked for 1,800 psig, or higher, service pressure.

(3) Liquefied petroleum gas must be shipped in specification containers as follows:

(i) Specifications 3,[1] 3A, 3AA, 3B, 3E, 4A, 4B, 4BA, 4B240ET, 4BW240, 4B240X,[1] 4B240FLW, 4E, 4, 9,[1] 25,[1] 26,[1] 38,[1] 39, or 41[1] (§§ 178.36, 178.37, 178.38, 178.42, 178.49, 178.50, 178.51, 178.55, 178.61, 178.54, 178.68. 178.48, 178.63, 178.65, 178.67 of this chapter). The internal volume of a specification 39 cylinder must not exceed 75 cubic inches.

NOTE 1: Cylinders marked as complying with DOT spec. 4B240FLW bearing manufacturer's symbol WCO and serial numbers 47A-1 to 47A-59200, inclusive, varying from the specification requirements as to physical properties of steel, are authorized for the transportation of liquefied petroleum gases.

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[1] Use of existing cylinders authorized, but new construction not authorized.

(ii) Additional containers may be used within the limits of quantity and pressure as follows:

Type of container	Maximum capacity		Maximum charging pressure—p.s.i.g.
	Cubic inches	Gallons	
DOT-2P or DOT-2Q (see Note 1)	31.83		45 p.s.i.g. at 70° F. and 105 p.s.i.g. at 130° F. (see Note 2).
DOT-2P or DOT-2Q (see Note 1)	31.83		35 p.s.i.g. at 70° F. and 100 p.s.i.g. at 130° F.
DOT-3C or DOT-4C	3,881	16+5% tolerance	145 p.s.i.g. at 130° F.

NOTE 1: Containers must be packed in strong wooden or fiber boxes of such design as to protect valves from injury or accidental functioning under conditions incident to transportation. Each completed container filled for shipment must have been heated until contents reached a minimum temperature of 130° F., without evidence of leakage, distortion, or other defect. Each outside shipping container must be plainly marked "INSIDE CONTAINERS COMPLY WITH PRESCRIBED SPECIFICATIONS."

NOTE 2: Containers must be equipped with safety relief devices which will prevent rupture of the containers and dangerous projection of the closing devices when the containers are exposed to the action of fire.

(4) Verification of content. Containers with a water capacity of 200 pounds or more and for use with a liquefied petroleum gas with a specific gravity at 60° F. or 0.504 or greater may have their contents determined by using a fixed length dip tube gauging device. The length of the dip tube shall be such that when a liquefied petroleum gas with a specific volume of 0.03051 cu. ft./lb. at a temperature of 40° F. is charged into the container it just reaches the bottom of the tube. The weight of this liquid shall not exceed 42 percent of the water capacity of the container which must be stamped thereon. The length of the dip tube, expressed in inches carried out to one decimal place and prefixed with the letters "DT" shall be stamped on the container and on the exterior of removable type dip tube; for the purpose of this requirement the marked length shall be expressed as the distance measured along the axis of a straight tube from the top of the boss through which the tube is inserted to the proper level of the liquid in the container. The length of each dip tube shall be checked when installed by weighing each container after filling except when installed in groups of substantially identical containers in which case one of each 25 containers shall be weighed. The quantity of liquefied gas in each container must be checked by means of the dip tube after disconnecting from the charging line. The outlet from the dip tube shall be not larger than a No. 54 drill size orifice. A container representative of each day's filling at each charging plant shall have its contents checked by weighing after disconnecting from the charging line.

(e) *Refrigerant gases.* Refrigerant gases which are nonpoisonous and nonflammable under this part, must be shipped in cylinders as prescribed in paragraph (a)(1) or (2) of this section, or as follows:

(1) Specifications 2P and 2Q (§§178.33, 178.33a of this subchapter). Inside metal containers packed in a strong wooden or fiberboard box of such design as to protect valves from injury or accidental functioning under conditions incident to transportation. Pressure in the container must not exceed 85 pounds per square inch absolute at 70° F. Each completed metal container filled for shipment must be heated until content reaches a minimum temperature of 130° F. without evidence of leakage, distortion, or other defect. Each outside shipping container must be plainly marked "Inside Containers Comply With Prescribed Specification."

(f) *Engine starting fluid.* Engine starting fluid containing compressed gas or gases which are flammable under this part must be shipped in cylinders as prescribed in paragraph (a)(1) of this section, or as follows:

(1) Inside nonrefillable metal containers of capacity not exceeding 32 cubic inches. Containers must be packaged in spec. 12B (§ 178.205 of this subchapter) fiberboard boxes equipped with top and bottom pads which will provide three complete thicknesses of fiberboard on tops and bottoms of boxes, or spec. 15A, 15B, or 15C (§ 178.168, § 178.169, or § 178.170 of this subchapter) wooden boxes. Pressure in the container must not exceed 140 psi, absolute, at 130°F. However, if the pressure exceeds 140 psi, absolute at 130° F., a spec. 2P (§ 178.33 of this subchapter) container must be used. In any event, the metal container must be capable of withstanding without bursting a pressure of one and one-half times the pressure of the content at 130° F. The liquid content of the material and gas must not completely fill the container at 130° F. Each completed container filled for shipment must have been heated until content reaches a minimum temperature of 130° F., without evidence of leakage, distortion, or other defect. Each outside shipping container must be plainly marked, "INSIDE CONTAINERS COMPLY WITH PRESCRIBED SPECIFICATIONS."

[29 FR 18743, Dec. 29, 1964, as amended by Order 66, 30 FR 5746, Apr. 23, 1965; Order 71, 31 FR 9071, July 1, 1966. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-6, 34 FR 7161, May 1, 1969; Amdt. 173-11, 34 FR 12592, Aug. 1, 1969; Amdt. 173-19, 35 FR 5332, Mar. 31, 1970; Amdt. 173-34, 35 FR 13836, Sept. 1, 1970; Amdt. 173-38, 35 FR 16683, Oct. 28, 1970; Amdt. 173-44, 36 FR 5421, Mar. 23, 1971; Amdt. 173-47, 36 FR 10952, June 5, 1971; Amdt. 173-53, 36 FR 16580, Aug. 24, 1971; Amdt. 173-53, 36 FR 17343, Aug. 28, 1971; Amdt. 173-54, 36 FR 18469, Sept. 15, 1971; Amdt. 173-57, 36 FR 21289, Nov. 5, 1971; Amdt. 173-64, 37 FR 14588, July 21, 1972; Amdt. 173-70, 38 FR 5309, Feb. 27, 1973; Amdt. 173-73, 38 FR 20085, July 27, 1973; Amdt. 173-75, 38 FR 21990, Aug. 15, 1973; Amdt. 173-75, 38 FR 22552, Aug. 22, 1973; Amdt. 173-79, 39 FR 12751, Apr. 8, 1974; Amdt. 173-81, 39 FR 17319, May 15, 1974; Amdt. 173-94, 41 FR 16079, Apr. 15, 1976]

§ 173.305 Charging of cylinders with a mixture of compressed gas and other material.

(a) *Detailed requirements.* A mixture of a compressed gas and any other material must be shipped as a compressed gas if the mixture is a compressed gas as designated in § 173.300(a) and when not in violation of § 173.301(a).

(b) *Filling limits.* (See § 173.301(e).) For mixtures, the liquid portion of the liquefied compressed gas at 130° F. plus any additional liquid or solid must not completely fill the container.

(c) *Nonpoisonous and nonflammable mixtures.* Mixtures containing compressed gas or gases including insecticides, which mixtures are nonpoisonous and nonflammable under this part must be shipped in cylinders as prescribed in § 173.304(a) or as follows:

(1) Spec. 2P (§ 178.33 of this subchapter). Inside metal containers equipped with safety relief devices of a type approved by the Bureau of Explosives and packed in strong wooden or fiber boxes of such design as to protect valves from injury or accidental functioning under conditions incident to transportation. Pressure in the container must not exceed 85 psi absolute at 70° F. Each completed metal container filled for shipment must be heated until content reaches a minimum temperature of 130° F., without evidence of leakage, distortion or other defect. Each outside shipping container must be plainly marked "INSIDE CONTAINERS COMPLY WITH PRESCRIBED SPECIFICATIONS."

(d) *Poisonous mixtures.* A mixture containing any poisonous material, Class A, or irritating material in such proportions that the mixture would be classed as poisonous under § 173.326(a) or § 173.381(a) must be shipped in packagings as authorized for these poisonous materials.

[29 FR 18743, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967. As amended by Amdt. 173-70, 38 FR 5309, Feb. 27, 1973; Amdt. 173-94, 41 FR 16079, Apr. 15, 1976]

§ 173.306 Limited quantities of compressed gases.

(a) Limited quantities of compressed gases for which exceptions are permitted as noted by reference to this section in § 172.101 of this subchapter are excepted from labeling (except when offered for transportation by air) and, unless required as a condition of the exception, specification packaging requirements of this subchapter when packed in accordance with the following paragraphs. In addition, shipments are not subject to Subpart F of Part 172 of this subchapter, to Part 174 of this subchapter except § 174.24 and to Part 177 of this subchapter except § 177.817.

(1) When in containers of not more than 4 fluid ounces capacity (7.22 cubic inches or less) except cigarette lighters.

Special exceptions for shipment of certain compressed gases in the ORM–D class are provided in Subpart N of this part.

(2) When in metal containers filled with a material that is not classed as a hazardous material to not more than 90 percent of capacity at 70° F. then charged with nonflammable, nonliquefied gas. Each container must be tested to three times the pressure at 70° F. and, when refilled, be retested to three times the pressure of the gas at 70° F. Also, one of the following conditions must be met:

(i) Container is not over 1 quart capacity and charged to not more than 170 psig at 70° F. and must be packed in a strong outside packaging, or

(ii) Container is not over 30 gallons capacity and charged to not more than 75 psig at 70° F.

(3) When in a metal container charged with a solution of materials and compressed gas or gases which is nonpoisonous, provided all of the following conditions are met. Special exceptions for shipment of aerosols in the ORM–D class are provided in Subpart N of this part.

(i) Capacity must not exceed 50 cubic inches (27.7 fluid ounces).

(ii) Pressure in the container must not exceed 180 psig at 130° F. If the pressure exceeds 140 psig at 130° F., but does not exceed 160 psig at 130° F., a specification DOT 2P (§ 178.33 of this subchapter) inside metal container must be used; if the pressure exceeds 160 psig at 130° F., a specification DOT 2Q (§ 178.33a of this subchapter) inside metal container must be used. In any event, the metal container must be capable of withstanding without bursting a pressure of one and one-half times the equilibrium pressure of the content at 130° F.

(iii) Liquid content of the material and gas must not completely fill the container at 130° F.

(iv) The container must be packed in strong outside packagings.

(v) Each completed container filled for shipment must have been heated until the pressure in the container is equivalent to the equilibrium pressure of the content at 130° F. (55° C.) without evidence of leakage, distoration, or other defect.

(vi) Each outside packaging must be marked "INSIDE CONTAINERS COMPLY WITH PRESCRIBED REGULATIONS."

(b) *Exemptions for foodstuffs, soap, biologicals, electronic tubes, and audible fire alarm systems.* Limited quantities of compressed gases, (except poisonous gases as defined by § 173.326) for which exceptions are provided as indicated by reference to this section in § 172.101 of this subchapter, when in accordance with one of the following paragraphs are excepted from labeling (except when offered for transportation by air) and the specification packaging requirements of this subchapter. In addition, shipments are not subject to Subpart F of Part 172 of this subchapter, to Part 174 of this subchapter except § 174.24 and to Part 177 of this subchapter, except § 177.817. Special exceptions for shipment of certain compressed gases in the ORM–D class are provided in Subpart N of this part.

(1) Foodstuffs or soaps in a nonrefillable metal container not exceeding 50 cubic inches capacity (27.7 fluid ounces), with double or emulsified compressed gas, provided the pressure in the container does not exceed 140 p.s.i.g. at 130° F. The metal container must be capable of withstanding without bursting a pressure of one and one-half times the equilibrium pressure of the content at 130° F.

(i) Containers must be packed in strong outside packagings.

(ii) Liquid content of the material and the gas must not completely fill the container at 130° F.

(iii) Each outside packaging must be marked "INSIDE CONTAINERS COMPLY WITH PRESCRIBED REGULATIONS."

(2) Cream in refillable metal receptacles with soluble or emulsified compressed gas. Containers must be of such design that they will hold pressure without permanent deformation up to 375 psig and must be equipped with a device designed so as to release pressure without bursting of the container or dangerous projection of its parts at higher pressures. This exception applies to shipments offered for transportation by refrigerated motor vehicles only.

(3) Nonrefillable metal containers charged with a solution containing biological products or a medical preparation which could be deteriorated by heat, and compressed gas or gases, which is nonpoisonous and nonflammable. The capacity of each container may not exceed 35 cubic inches (19.3 fluid ounces). The pressure in the container may not exceed 140 psig at 130° F., and the liquid content of the product and gas must not completely fill the containers at 130° F. One completed container out of each lot of 500 or less, filled for shipment, must be heated, until the pressure in the container is equivalent to equilibrium pressure of the content at 130° F. There must be no evidence of leakage, distortion, or other defect. Container must be packed in strong outside packagings.

(4) Electronic tubes, each having a volume of not more than 30 cubic inches and charged with gas to a pressure of not more than 35 psig and packed in strong outside packagings.

(5) Audible fire alarm systems powered by a compressed gas contained in an inside metal container when shipped under the following conditions:

(i) Each inside container must have contents which are not flammable, poisonous, or corrosive as defined under this part;

(ii) Each inside container may not have a capacity exceeding 35 cubic inches (19.3 fluid ounces);

(iii) Each inside container may not have a pressure exceeding 70 psig at 70° F. and the liquid portion of the gas may not completely fill the inside container at 130° F., and

(iv) Each nonrefillable inside container must be designed and fabricated with a burst pressure of not less than four times its charged pressure at 130° F. Each refillable inside container must be designed and fabricated with a burst pressure of not less than five times its charged pressure at 130° F.

(c) *Fire extinguishers.* Fire extinguishers charged with limited quantities of a compressed gas to not more than 240 psig at 70° F. are excepted from labeling (except when offered for transportation by air) and the specification packaging requirements of this subchapter when shipped under the following conditions. In addition, shipments are not subject to Subpart F of Part 172 of this subchapter, to Part 174 of this subchapter except § 174.24 and to Part 177 of this subchapter except § 177.817.

(1) Each fire extinguisher must be shipped as an inside packaging;

(2) Each fire extinguisher must have contents which are not flammable, poisonous, or corrosive as defined under this Part;

(3) Each fire extinguisher under stored pressure may not have an internal volume exceeding 1,100 cubic inches. For fire extinguishers not exceeding 35 cubic inches capacity, the liquid portion of the gas plus any additional liquid or solid must not completely fill the container at 130° F. Fire extinguishers exceeding 35 cubic inches capacity may not contain any liquefied compressed gas;

(4) Each fire extinguisher manufactured on and after January 1, 1976, must be designed and fabricated with a burst pressure of not less than six times its charged pressure at 70° F. when shipped.

(5) Each fire extinguisher must be tested, without evidence of failure or damage, to at least three times its charged pressure at 70° F. but not less than 120 psig before initial shipment. For any subsequent shipment, each fire extinguisher must be in compliance with the retest requirements of the Occupational Safety and Health Administration Regulations of the Department of Labor, 29 CFR 1910.157(d), and;

(6) Each fire extinguisher must be marked to indicate the year of the test (within 90 days of the actual date of the original test) and "MEETS DOT REQUIREMENTS." This marking will be considered a certification that the fire extinguisher was manufactured in accordance with the requirements of this section.

NOTE: The words "This extinguisher meets all requirements of 49 CFR 173.306" may be displayed in place of "MEETS DOT REQUIREMENTS" on extinguishers manufactured prior to January 1, 1976.

(7) When specification 2P or 2Q packagings are used, paragraphs (c) (4) through (6) of this section are not applicable provided each packaging meets the requirements of paragraph (a) of this section.

(d) *Truck bodies or trailers on flat cars; automobiles, motorcycles, tractors, or other self-propelled vehicles.* (1) Truck bodies or trailers with automatic heating or refrigerating equipment of the gas burning type may be shipped with fuel tanks filled and equipment operating or inoperative, when used for the transportation of other freight and loaded on flat cars as part of a joint rail-highway movement, provided the equipment and fuel supply are of a type approved by the Bureau of Explosives. The heating or refrigerating units are not subject to any other requirements of this subchapter and are to be considered as carriers equipment not as shipments.

(2) Automobiles, motorcycles, tractors, or other self-propelled vehicles equipped with liquiefied petroleum gas or other compressed gas fuel tanks, provided such tanks are securely closed, are not subject to any other requirements for transportation by rail or highway. For transportation by water, see § 176.328 and 176.78(k) of this subchapter. For transportation by air, the fuel tank must be removed or emptied and securely closed.

(3) A cylinder which is a component part of a passenger restraint system and is installed in a motor vehicle, charged with nonliquefied, nonflammable compressed gas and having no more than two actuating cartridges per valve, is excepted from the requirements of Parts 170–189 of this subchapter except:

(i) Unless otherwise authorized by the Department, each cylinder must be in compliance with one of the cylinder specifications in Part 178 and authorized for use in § 173.302 for the gas it contains;

(ii) Each cylinder must be in compliance with the filling requirements of § 173.301; and

(iii) Each actuating cartridge must be approved in accordance with § 173.86 and meet the definition set forth in § 173.100(w).

NOTE.—A cylinder containing a gas generator may be included within the provisions of this exception if the requirements of § 173.34(d) are satisfied.

(e) *Refrigerating machines.* (1) New (unused) refrigerating machines or components thereof are excepted from the specification packaging requirements of this part if they meet the following conditions. In addition, shipments are not subject to Subpart F of Part 172 of this subchapter, to Part 174 of this subchapter except § 174.24 and to Part 177 of this subchapter except § 177.817.

(i) Each pressure vessel may not contain more than 1,000 pounds of Group I refrigerant as classified in American National Standard B9.1 or not more than 50 pounds of refrigerant other than Group I.

(ii) Machines or components having two or more charged vessels may not contain an aggregate of more than 2,000 pounds of Group I refrigerant or more than 100 pounds of refrigerant other than Group I.

(iii) Each pressure vessel must be equipped with a safety device meeting the requirements of American National Standard B9.1.

(iv) Each pressure vessel must be equipped with a shut-off valve at each opening except openings used for safety devices and with no other connection. These valves must be closed prior to and during transportation.

(v) Pressure vessels must be manufactured, inspected and tested in accordance with American National Standard B9.1, or when over 6 inches internal diameter, in accordance with the ASME Code.

(vi) All parts subject to refrigerant pressure during shipment must be tested in accordance with American National Standard B9.1.

(vii) The liquid portion of the refrigerant, if any, may not completely fill any pressure vessel at 130° F.

(viii) The amount of refrigerant, if liquefied, may not exceed the filling density prescribed in § 173.304.

(f) *Accumulators.* The following applies to accumulators, which are hydraulic accumulators containing nonliquefied, nonflammable gas, and nonflammable liquids or pneumatic accumulators containing nonliquefied, nonflammable gas, fabricated from materials which will not fragment upon rupture.

(1) Accumulators installed in motor vehicles, construction equipment, and assembled machinery and designed and fabricated with a burst pressure of not less than five times their charged pressure at 70° F., when shipped, are not subject to the requirements of this subchapter.

(2) Accumulators charged with limited quantities of compressed gas to not more than 200 p.s.i.g. at 70° F. are excepted from labeling (except when offered for transportation by air) and the specification packaging requirements of this subchapter when shipped under the following conditions. In addition, shipments are not subject to Subpart F of Part 172 of this subchapter, to Part 174 of this subchapter except § 174.24 and to Part 177 of this subchapter except § 177.817.

(i) Each accumulator must be shipped as an inside packaging;

(ii) Each accumulator may not have a gas space exceeding 2,500 cubic inches under stored pressure, and

(iii) Each accumulator must be tested, without evidence of failure or damage, to at least three times its charged pressure of 70° F., but not less than 120 p.s.i. before initial shipment and before each refilling and reshipment.

(3) Accumulators with a charging pressure exceeding 200 p.s.i.g. at 70° F. are excepted from labeling (except when offered for transportation by air) and the specification packaging requirements of this subchapter when shipped under the following conditions:

(i) Each accumulator must be in compliance with the requirements stated in paragraph (a)(2), (i), (ii), and (iii) of this section, and

(ii) Each accumulator must be designed and fabricated with a burst pressure of not less than five times its charged pressure at 70° F. when shipped.

[Amdt. 173–94, 41 FR 16079, Apr. 15, 1976 as amended by Amdt. 173–94A, 41 FR 40683, Sept. 20, 1976]

§ 173.307 Exceptions for compressed gases.

(a) The following materials are not subject to the requirements of this subchapter:

(1) Carbonated beverages.

(2) Inflated tires. (maximum pressure of 100 psig at 70°F)

(3) Balls used for sports.

(4) Refrigerating machines including dehumidifiers and air conditioners, and components thereof such as precharged tubing containing 25 pounds or less of nonflammable liquefied gas.

[Amdt. 173–94, 41 FR 16081, Apr. 15, 1976]

§ 173.308 Cigarette lighter or other similar device charged with fuel.

(a) In addition to the requirements of § 173.21(d), a cigarette lighter or other similar device charged with butane or a flammable gas having similar properties must be shipped in accordance with the following:

(1) No more than 2.3 fluid ounces of liquefied gas may be loaded into each device;

(2) The liquid portion of the gas may not exceed 85 percent of the volumetric capacity of each fluid chamber at 60° F.

(3) Each device, including closures, must be capable of withstanding without leakage or rupture an internal pressure of at least two times the vapor pressure of the fuel at 130° F; and

(4) Devices must be overpacked in packaging that is designed or arranged to prevent movement of the device itself.

(b) When no more than 1,500 devices covered by this section are transported in one motor vehicle by highway, the requirements of Parts 172 and 177 of this subchapter do not apply.

[Amdt. 173–94, 41 FR 16081, Apr. 15, 1976, as amended by Amdt. 173–94A, 41 FR 40683, Sept. 20, 1976]

§ 173.314 Requirements for compressed gases in tank cars.

(a) *Definitions.* For definitions of compressed gases, see § 173.300.

(b) *General requirements.*

(1) Tank cars containing compressed gases must not be shipped unless they were loaded by or with the consent of the owner thereof.

(2) Tank cars must not contain gases capable of combining chemically and must not be loaded with any gas which combines chemically with the gas previously loaded therein, until all residue has been removed and interior of tank thoroughly cleaned.

(3) For cars of the DOT–106A and 110A class, the tanks must be placed in position and attached to car structure by the shipper.

(4) Wherever the word "approved" is used in this part of the regulations, it means approval by the Association of American Railroads Committee on Tank Cars as prescribed in § 179.3 of this subchapter.

(5) Each tank car, except series 106A*** or 110A***, containing a flammable compressed gas or flammable compressed gas mixture must be marked with the name of contents (§ 172.101 of this subchapter) in accordance with the requirements of § 172.330 of this subchapter or as otherwise approved by the Department.

(6) Each tank car containing anhydrous ammonia or chlorine must be marked "ANHYDROUS AMMONIA" or "CHLORINE," as appropriate, in accordance with the requirements of § 172.330 of this subchapter.

(c) *Authorized gases, filling densities, tank cars.* Compressed gases transported in tank cars must be shipped as provided in paragraphs (b) to (g) of this section, § 173.432, and the following table:

Kind of gas	Maximum permitted filling density, Note 1	Required tank car, see §173.31 (a) (2) and (3)
	Percent	
Anhydrous ammonia	50	DOT-106A500-X, Note 7.
	57	DOT-105A300-W.
	57	DOT-112A400-F, 112A340-W. 114A340-W, Notes 15 and 23.
	58.8	DOT-112A400-F, 112A340-W, 114A340-W, Notes 15 and 23.
Ammonia solution	Note 21	DOT-105A100-W, 105A100AL-W. 109A100AL-W, 109A300-W, 111A100-W-4, Note 20.
Argon	Note 20	DOT-107A.
Butadiene (pressure not exceeding 75 pounds per square inch at 105° F.), inhibited.	Notes 18 and 21	ICC-105A100[1], 105A100-W 111A100-W-4, Note 4.
Butadiene (pressure not exceeding 255 pounds per square inch at 115° F.), inhibited.	Notes 18 and 21	DOT-112A340-W. 114A340-W, Notes 4, 20, and 23.
Butadiene (pressure not exceeding 300 pounds per square inch at 115° F.), inhibited.	Notes 18 and 21	DOT-112A400-W, 114A400W, Notes 4, 20, and 23.
Carbon dioxide, liquefied	Note 5	DOT-105A500-W, Note 5.
Chlorine	125	DOT-106A500X, Note 7.
	125	DOT-105A500W, Note 12.
Crude nitrogen fertilizer solution	Note 21	DOT-106A500X. DOT-105A300-W, 109A300-W, Note 20.
Crude nitrogen fertilizer solution (pressure not exceeding 75 pounds per square inch at 105° F.).	Note 21	DOT-106A500X. DOT-105A100-AL-W, 109A100-AL-W, Note 20.
Dichlorodifluoromethane; Note 13	119	DOT-106A500X, 110A500-W, Note 7.
	125	DOT-105A300-W.
	123	DOT-112A340W, 114A340W.
Dichlorodifluoromethane and difluoroethane mixture(constant boiling mixture); Note 13.	Note 22	DOT-106A500X, 110A500W, Note 7. DOT-105A300W.
Dichlorodifluoromethane-dichlorotetrafluoroethane mixture; Note 13.	119	DOT-106A500X, 110A500-W, Note 7.
	125	DOT-105A300-W.
	Note 21	DOT-112A340W. 114A340W.
Dichlorodifluoromethane-monochlorodifluoromethane mixture; Note 13.	119	DOT 106A500X, 110A500-W, Note 7.
	125	DOT-105A300-W
	123	DOT-112A340W, 114A340W.
Dichlorodifluoromethane-monofluorotrichloromethane mixture; Note 13.	Note 22	DOT-106A500X, 110A500-W, Note 7. DOT-105A300 W
	Note 21	DOT-112A340W, 114A340W.
Dichlorodifluoromethane-trichloromonofluoromethane-monochlorodifluoromethane mixture; Note 13.	119	DOT-106A500X, 110A500 W, Note 7.
	125	DOT-105A300-W.
	123, Note 21	DOT-112A340W, 114A340W.
Dichlorodifluoromethane-trichlorotrifluoroethane mixture; Note 13.	119	DOT-106A500X, 110A500-W, Note 7.
	125	DOT-105A300-W.
	123	DOT-112A340W, 114A340W.
Difluoroethane	79	DOT-106A500X, 110A500-W, Note 7.
	84	DOT-105A300-W.
Difluoromonochloroethane; Note 13	100	DOT-106A500X, 110A500W, Note 7. DOT-105A100W, Note 4.
Dimethylamine, anhydrous	59	DOT-106A500X.
	62	DOT-105A300-W, Note 4.

See notes at end of tables.

Kind of gas	Maximum permitted filling density, Note 1	Required tank car, see §173.31(a) (2) and (3)
	Percent	
Dimethyl ether	59	DOT-106A500X, 110A500-W.
	62	DOT-105A300-W, Note 4.
Fertilizer ammoniating solution containing free ammonia.	Note 21	DOT-106A500X. DOT-105A300-W, 109A300-W, Note 20.
Fertilizer ammoniating solution containing free ammonia (pressure not exceeding 75 pounds per square inch at 105° F.).	Note 21	DOT-106A500X. DOT-105A100-AL-W, 109A100-AL-W, Note 20.
Fertilizer ammoniating solution containing free ammonia (pressure not exceeding 150 pounds per square inch at 105° F.).	Note 21	DOT-106A500X. DOT-105A200-AL-W, Note 20.
Helium	Note 20	DOT-107A.
Hexafluoropropylene	110	DOT-106A500-X, 110A500-W, Note 7.
Hydrogen	Note 20	DOT-107A, Note 2.
Hydrogen sulfide	68	DOT-106A800X, Notes 7 and 8.
Liquid hydrocarbon gas (pressure not exceeding 75 pounds per square nch at 105° F.).	Note 21	ICC-105A100[1], 105A100-W, 111A100-W-4, Note 4.
Liquid hydrocarbon gas (pressure not exceeding 225 pounds per squarel inch at 105° F.).	Note 21	DOT-105A300-W, Note 4.
Liquid hydrocarbon gas (pressure not exceeding 300 pounds per square inch at 105° F.).	Note 21	DOT-105A400-W, Note 4.
Liquid hydrocarbon gas (pressure not exceeding 375 pounds per square inch at 105° F.).	Note 21	DOT-105A500-W, Note 4.
Liquid hydrocarbon gas (pressure not exceeding 375 pounds per square inch at 130° F.).	Note 21	DOT-106A500X.
Liquid hydrocarbon gas (pressure not exceeding 450 pounds per square inch at 105° F.).	Note 21	DOT-105A600-W, Note 4.
Liquefied petroleum gas (pressure not exceeding 75 pounds per square inch at 105° F.).	Note 18	ICC-105A100,[1] 105A100-W, 111A100-W-4, Note 4.
Liquefied petroleum gas (pressure not exceeding 150 pounds per square inch at 105° F.).	Note 18	DOT-105A200-W, 105A200AL-W, Note 4.
Liquefied petroleum gas (pressure not exceeding 225 pounds per square inch at 105° F.).	Note 18	DOT-105A300-W, Notes 4 and 20.
Liquefied petroleum gas (pressure not exceeding 255 pounds per square inch at 115° F.).	Note 18	DOT-112A340-W, 114A340-W, Notes 4, 20, and 23.
Liquefied petroleum gas (pressure not exceeding 300 pounds per square inch at 105° F.).	Note 18	DOT-105A400-W, Notes 4, 20, and 23.
Liquefied petroleum gas (pressure not exceeding 300 pounds per square inch at 115° F.).	Note 18	DOT-112A400-F, 112A400-W, 114A400W; Notes 4 and 20.
Liquefied petroleum gas (pressure not exceeding 375 pounds per square inch at 105° F.).	Note 18	DOT-105A500-W, Notes 4 and 20.
Liquefied petroleum gas (pressure not exceeding 375 pounds per square inch at 130° F.).	Note 18	DOT-106A500X.
Liquefied petroleum gas (pressure not exceeding 450 pounds per square inch at 105° F.).	Note 18	DOT-105A600-W, Notes 4 and 20.
Methylacetylene-propadiene, stabilized	Note 22	DOT-105A300W; 112A340W; 114A340W; 106A 500X, Notes 4, 9, and 23.
Methyl chloride	84	DOT-106A500X, Note 7.
	85	DOT-112A340W, Note 4.
	86	DOT-105A300W, Notes and 23.
Methly chloride-methylene chloride mixture	Note 22	DOT-106A500X, Note 7 4 DOT-105A300-W, Note 4
Methly mercaptan	80	DOT-106A500X, Notes 7 and 14.
	82	DOT-105A300-W, Note 4.
Monobromotrifluoromethane	124	DOT-110A800-W, Notes 7 and 13.
Monochlorodifluoromethane; Note 13	105	DOT-106A500X, 110A500-W, Note 7.
	110	DOT-105A300-W.
Monochlorotetrafluoroethane; Note 13	125	DOT-106A500X, 110A500-W, Note 7.
Monomethylamine, anhydrous	60	DOT-106A500X.
	62	DOT-105A300-W, Note 4.
Nitrogen	Note 20	DOT-107A.
Nitrogen fertilizer solution	Note 21	DOT-106A500X. DOT 105A300-W, 109A300-W, 109A300AL-W, Note 20.
Nitrogen fertilizer solution (pressure not exceeding 75 pounds per square inch at 105° F.).	Note 21	DOT-106A500X. DOT-105A100-AL-W, 109A100-AL-W, Note 20.
Nitrosyl chloride	110	DOT 106A800-X, Notes 7 and 11.
	124	DOT-105A300-W, Note 10.
Oxygen	Note 20	DOT-107A.
Sulfur dioxide	125	DOT-106A500X, 110A500-W, Note 7. DOT-105A200-W.
Sulfuryl fluoride	120	DOT-105A500-W.
Trifluorochloroethylene	115	DOT-106A500X, 110A500-W, Note 7.
	120	DOT-105A300-W, Note 4.
Trimethylamine, anhydrous	57	DOT-106A500X.
	59	DOT-105A300-W, Note 4.
Vinyl chloride, Note 9	84	DOT-106A500X, Note 7.
	87	DOT-105A200W, Notes 4 and 16.
	86	DOT-112A340W, 114A340W, Notes 4 and 23.
Vinyl fluoride, inhibited	58	DOT-105A600-W, Note 17.
Vinyl methyl ether, inhibited; Note 9	68	ICC-105A100,[1] 105A100-W, Note 4.
	68	DOT-106A500-X, Note 7.

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[1] Use of existing tank cars authorized, but new construction not authorized.

NOTE 1: The filling density for liquefied gases is hereby defined as the percent ratio of the weight of gas in the tank to the weight of water that the tank will hold. For determining the water capacity of the tank in pounds, the weight of a gallon (231 cubic inches) of water at 60° F. in air shall be 8.32828 pounds.

NOTE 2: Each tank must be equipped with one or more safety relief devices of approved type and discharge area; the discharge outlet of each safety relief device must be connected to a manifold having an unobstructed discharge area of at least 1½ times the total discharge area of the safety relief devices connected to the manifold; all manifolds must be connected to a single common header having an unobstructed discharge outlet pointing upward and extending above top of the car; the header and the header outlet must each have an unobstructed discharge area at least equal to the total discharge area of the manifolds connected to the header; the header outlet must be equipped with an approved ignition device which will instantly ignite any hydrogen discharged through the safety relief device.

NOTE 3: [Reserved]

NOTE 4: For tank cars other than DOT-106A class used for the transportation of liquefied flammable gases, interior pipes of loading and unloading valves must be equipped with excess-flow valves of approved design.

NOTE 5: The liquid portion of the gas at 0° F. must not completely fill the tank.

NOTE 6: Tank must be insulated with an approved material of a thickness so that the thermal conductance is not more than 0.03 B.t.u. per square foot, per degree F. differential in temperature per hour; except that the insulation thickness directly over the center sills may be reduced to give thermal conductance not exceeding 0.04 B.tu. per square foot, per degree F. differential in temperature per hour; this reduction is to permit an anchorage which must not exceed 7 inches from top of center sills to bottom of tank. Tank must be equipped with one safety relief valve of approved design set to open at a pressure not exceeding ¾ of the test pressure of the tank and one frangible disc of approved design set to function at a pressure less than the test pressure of the tank. The discharge capacity of each of these safety relief devices must be sufficient to prevent building up of pressure in tank in excess of ¾ of the test pressure of the tank. Tanks must be equipped with two pressure-regulating valves of approved design set to open at a pressure not to exceed 350 psi on 105A500-W tanks and at a pressure not to exceed 400 psi on 105A600-W tanks. Each regulating valve and safety relief device must have its final discharge piped to the outside of the protective housing.

NOTE 7: Specification 106A or 110A tanks authorized only for transportation by rail freight and by highway. (See §§ 174.560 and 177.834 (m) of this subchapter for special requirements.)

NOTE 8: Each tank must be equipped with adequate safety relief devices of the fusible plug type having a yield temperature not over 170° F., nor less than 157° F. Each device must be resistant to extrusion of the fusible alloy and leak tight at 130° F. Each valve outlet must be sealed by a threaded cap or a threaded solid plug. In addition, all valves must be protected by a metal cover.

NOTE 9: All parts of valves and safety relief devices in contact with content of tank must be of a metal or other material suitably treated if necessary, which will not cause formation of any acetylides.

NOTE 10: Tanks must be made of or clad with a metal not subject to rapid deterioration by the lading; all appurtenances such as manhole covers, venting, loading and discharge valves, safety relief valves, check valves, and eduction pipes, must be made of metal not subject to rapid deterioration by the lading; cork must be used as an insulating material.

NOTE 11: Tanks for nitrosyl chloride shall be nickel-clad and safety relief devices shall be of the fusible plug type and shall function at a temperature of not exceeding 175° F. and be vapor tight at 130° F.

NOTE 12: For special tank requirements applying to chlorine, see § 179.102-2. The quantity of chlorine loaded into a single-unit tank car must not exceed 90 tons. Nominal 16-, 30-, 55-, 85-, or 90-ton tank car tanks must be loaded to the nominal lading weights with a tolerance of plus 0, minus 2 percent. Tank cars built to ICC-105A500 may be stenciled either ICC-105A300 or ICC-105A500; tank cars built to ICC or DOT-105A500W may be stenciled either 105A300W or 105A500W; each tank must be equipped with the safety relief valve required by the stenciled specification. Existing tank cars, not larger than 30-ton chlorine capacity built to ARA-V, or not larger than 55-ton chlorine capacity built to ICC-105A300, or ICC-105A300W, may be continued in service if equipped with excess flow valves in accordance with § 179.102-2. ARA-V and ICC-105A cars having forge welded anchors must not be used for the transportation of chlorine.

NOTE 13: This gas may be transported in authorized tank car tanks stenciled "DISPERSANT GAS" or "REFRIGERANT GAS."

NOTE 14: Container shall not be equipped with safety relief devices of any description.

NOTE 15: A filling density of 58.8 percent may be used during the months of November through March, inclusive. When this filling density is used, tank cars must be loaded and shipped directly to consumers for unloading. Storage in transit is not permitted.

NOTE 16: Openings in tank heads to facilitate application of nickel lining are authorized on tank cars constructed before January 1, 1975. These openings must be closed in an approved (§ 179.3 of this subchapter) manner.

NOTE 17: Tank must be insulated with an approved material of a thickness so that the thermal conductance is not more than 0.03 B.t.u. per square foot per degree F. differential in temperature per hour; except that the insulation thickness directly over center sills may be reduced to give thermal conductance not exceeding 0.04 B.t.u. per square foot per degree F. differential in temperature per hour; this reduction is to permit an anchorage which must not exceed 7 inches from top of center sills to bottom of tank. In addition to the safety relief valve required by § 179.100-15 of this subchapter, the tank must be equipped with one frangible disc of approved design set to function at a pressure less than 600 pounds per square inch but not less than 450 pounds per square inch. The discharge capacity of each of these safety relief devices must be sufficient to prevent building up of pressure in tank in excess of 495 pounds per square inch. Each safety relief device must have its discharge piped to the outside of the protective housing. The temperature of the vinyl fluoride, inhibited when the car is offered in transportation shall not exceed zero degrees F. and the pressure shall not exceed 105 psi. The shipper shall notify the Bureau of Explosives whenever a car is not received by the consignee within 30 days from the date of shipment.

NOTE 18: See paragraph (f) of this section.

NOTE 19: See paragraph (f)(2) of this section.

NOTE 20: See paragraph (d)(1) of this section.

NOTE 21: See paragraph (d)(2) of this section.

NOTE 22: See paragraph (d) of this section.

NOTE 23: Specification 112A or 114A tank cars used for transportation of compressed gases must be equipped with protective head shields after Dec. 31, 1977. See sec. 179.100-23 for head shield specification.

(d) *Filling limits*—(1) *Non-liquefied and liquefied gas.* The gas pressure at 105° F. in any insulated tank car tank of the DOT-105A and 109A-W class or spec. DOT-111A100-W-4; at 115° F. in any uninsulated tank car tank of the DOT-112A-W and 114A-W class; or at 130° F. in any uninsulated tank car tank of the DOT-106A and 110A-W class must not exceed three-fourths times the prescribed retest pressure of the tank. The gas pressure at 130° F. in any uninsulated tank car tank of the DOT-107A series must not exceed seven-tenths of the marked test pressure of the tank.

NOTE 1: DOT–107A tanks may be charged with helium to a pressure 10 percent in excess of the marked maximum gas pressure at 130° F. of each tank.

(2) *Liquefied gas.* In addition to the requirements of paragraph (d) (1) of this section, the liquid portion of the gas at 105° F. must not completely fill an insulated tank, nor at 130° F. must not completely fill an uninsulated tank with the exception that the liquid portion of the gas at 115° F. must not completely fill an uninsulated tank car tank of the DOT–112A–W and 114A–W classes.

(e) *Verification of content.* The amount of liquefied gas loaded into each tank may be determined either by measurement or calculation of the weight. If by measurement, the weight must be checked after disconnecting the loading line by the use of proper scales. If by calculation, the weight of liquefied petroleum gas, methylacetylene-propadiene, stabilized, dimethylamine, monomethylamine, or trimethylamine may be calculated using the outage tables supplied by the tank car owners and the specific gravities as determined at the plant, and this computation must be checked by determination of specific gravity of product after loading. Carriers may verify calculated weights by use of proper scales.

(f) *Special requirements for liquefied petroleum gas and butadiene tank cars*—(1) *Single unit tank cars.* Maximum filling density in single unit tank cars shall be as shown in the following table:

Maximum permitted filling density

Specific gravity at 60° F.	Insulated cars		Uninsulated cars	
	April through October	November through March (see Note 1)	April through October	November through March (see Note 1)
0.500	45.500	47.40	44.88	46.88
0.501	45.600	47.51	45.00	47.00
0.502	45.700	47.62	45.13	47.10
0.503	45.800	47.73	45.25	47.20
0.504	45.900	47.84	45.38	47.30
0.505	46.000	47.95	45.50	47.40
0.506	46.125	48.06	45.60	47.50
0.507	46.250	48.17	45.70	47.63
0.508	46.375	48.28	45.80	47.75
0.509	46.500	48.39	45.90	47.88
0.510	46.750	48.51	46.00	48.00
0.511	47.000	48.61	46.13	48.10
0.512	47.125	48.72	46.25	48.20
0.513	47.250	48.83	46.38	48.30
0.514	47.375	48.94	46.50	48.40
0.515	47.500	49.05	46.63	48.50
0.516	47.625	49.16	46.75	48.63
0.517	47.750	49.27	46.88	48.75
0.518	47.875	49.38	47.00	48.88
0.519	48.000	49.49	47.13	49.00
0.520	48.125	49.60	47.25	49.10
0.521	48.250	49.70	47.38	49.20
0.522	48.375	49.81	47.50	49.30
0.523	48.500	49.92	47.63	49.40
0.524	48.600	50.03	47.75	49.50
0.525	48.700	50.14	47.88	49.63
0.526	48.800	50.25	48.00	49.75
0.527	48.900	50.36	48.13	49.88
0.528	49.000	50.47	48.25	50.00
0.529	49.125	50.58	48.38	50.10
0.530	49.250	50.69	48.50	50.20
0.531	49.375	50.79	48.63	50.30
0.532	49.500	50.90	48.75	50.40
0.533	49.625	51.01	48.88	50.50
0.534	49.750	51.12	49.00	50.63
0.535	49.875	51.23	49.13	50.75
0.536	50.000	51.34	49.25	50.88
0.537	50.100	51.45	49.38	51.00
0.538	50.200	51.56	49.50	51.10
0.539	50.300	51.67	49.60	51.20
0.540	50.400	51.78	49.70	51.30
0.541	50.500	51.88	49.80	51.40
0.542	50.625	51.99	49.90	51.50
0.543	50.750	52.09	50.00	51.63
0.544	50.875	52.20	50.13	51.75
0.545	51.000	52.31	50.25	51.88
0.546	51.100	52.41	50.38	52.00
0.547	51.200	52.52	50.50	52.10
0.548	51.300	52.62	50.63	52.20
0.549	51.400	52.73	50.75	52.30
0.550	51.500	52.84	50.88	52.40
0.551	51.625	52.94	51.00	52.50
0.552	51.750	53.05	51.13	52.63
0.553	51.875	53.16	51.25	52.75
0.554	52.000	53.26	51.38	52.88
0.555	52.125	53.37	51.50	53.00
0.556	52.250	53.48	51.60	53.10
0.557	52.375	53.58	51.70	53.20
0.558	52.500	53.69	51.80	53.30
0.559	52.625	53.80	51.90	53.40
0.560	52.750	53.91	52.00	53.50
0.561	52.875	54.01	52.13	53.63
0.562	53.000	54.12	52.25	53.75
0.563	53.100	54.22	52.38	53.88
0.564	53.200	54.33	52.50	54.00
0.565	53.300	54.43	52.63	54.10
0.566	53.400	54.54	52.75	54.20
0.567	53.500	54.64	52.88	54.30
0.568	53.600	54.75	53.00	54.40
0.569	53.700	54.85	53.10	54.50
0.570	53.800	54.96	53.20	54.60
0.571	53.900	55.06	53.30	54.70
0.572	54.000	55.17	53.40	54.80
0.573	54.125	55.27	53.50	54.90
0.574	54.250	55.38	53.63	55.00
0.575	54.375	55.48	53.75	55.13
0.576	54.500	55.59	53.88	55.25
0.577	54.600	55.69	54.00	55.38
0.578	54.700	55.80	54.10	55.50
0.579	54.800	55.90	54.20	55.60
0.580	54.900	56.01	54.30	55.70
0.581	55.000	56.11	54.40	55.80
0.582	55.100	56.22	54.50	55.90
0.583	55.200	56.32	54.63	56.00
0.584	55.300	56.43	54.75	56.13
0.585	55.400	56.53	54.88	56.25
0.586	55.500	56.64	55.00	56.38
0.587	55.625	56.74	55.13	56.50
0.588	55.750	56.85	55.25	56.60
0.589	55.875	56.95	55.38	56.70
0.590	56.000	57.06	55.50	56.80
0.591	56.090	57.15	55.60	56.90
0.592	56.180	57.25	55.70	57.00
0.593	56.270	57.34	55.80	57.10
0.594	56.360	57.44	55.90	57.20
0.595	56.450	57.53	56.00	57.30
0.596	56.540	57.63	56.13	57.40
0.597	56.630	57.72	56.25	57.50
0.598	56.720	57.82	56.38	57.60
0.599	56.810	57.91	56.50	57.70
0.600	56.900	58.01	56.62	57.80
0.601	56.990	58.10	56.73	57.90
0.602	57.080	58.20	56.84	58.00
0.603	57.170	58.29	56.95	58.13
0.604	57.260	58.39	57.07	58.25
0.605	57.330	58.49	57.18	58.38
0.606	57.440	58.58	57.30	58.50
0.607	57.530	58.68	57.41	58.63
0.608	57.620	58.77	57.52	58.75
0.609	57.710	58.87	57.64	58.88
0.610	57.800	58.97	57.76	59.00
0.611	57.890	59.06	57.87	59.10
0.612	57.980	59.16	57.98	59.20
0.613	58.070	59.26	58.09	59.30
0.614	58.160	59.35	58.21	59.40
0.615	58.250	59.45	58.32	59.50
0.616	58.340	59.55	58.43	59.63
0.617	58.430	59.64	58.55	59.75
0.618	58.520	59.74	58.66	59.88
0.619	58.610	59.84	58.77	59.97
0.620	58.700	59.94	58.89	60.07
0.621	58.790	60.03	59.00	60.18
0.622	58.880	60.13	59.12	60.28
0.623	58.970	60.23	59.23	60.38
0.624	59.060	60.32	59.34	60.49
0.625	59.150	60.42	59.46	60.59
0.626	59.240	60.52	59.57	60.70
0.627	59.330	60.61	59.68	60.80
0.628	59.420	60.71	59.80	60.90
0.629	59.510	60.81	59.91	61.01
0.630	59.600	60.91	60.02	61.11
0.631	59.690	61.00	60.13	61.18
0.632	59.780	61.10	60.28	61.28
0.633	59.870	61.19	60.34	61.38
0.634	59.960	61.29	60.44	61.47
0.635	60.050	61.39	60.55	61.57

NOTE 1: When these filling densities are used, tank cars must be shipped directly to consumers for unloading. Storage in transit is not permitted.

(2) *DOT–106A class tank cars.* Maximum filling density in DOT–106A class tank cars shall be as shown in § 173.304 (d) (1).

(g) *Foreign tank cars in domestic use.* Except as authorized by § 173.8 tank cars made in foreign countries, except Canada, must not be used in domestic traffic until they have been tested in this country and proper reports rendered as required by the specifications that apply.

[29 FR 18743, Dec. 29, 1964, as amended by Order 66, 30 FR 5747, Apr. 23, 1965; Order 67, 30 FR 7422, June 5, 1965; Order 71, 31 FR 9072, July 1, 1966. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–10, 34 FR 9869, June 26, 1969; Amdt. 173–18, 35 FR 1109, Jan. 28, 1970; Amdt. 173–34, 35 FR 13836, Sept. 1, 1970; Amdt. 173–47, 36 FR 10952, June 2, 1971; Amdt. 173–49, 36 FR 13093, July 14, 1971; Amdt. 173–51, 36 FR 14697, Aug. 10, 1971; Amdt. 173–54, 36 FR 18469, Sept. 15, 1971; Amdt. 173–59, 36 FR 21344, Nov. 6, 1971; Amdt. 173–73, 38 FR 20085; July 27, 1973; Amdt. 173–80, 39 FR 15037, Apr. 30, 1974; Amdt. 173–81, 39 FR 17320, May 15, 1974; Amdt. 173–82, 39 FR 24910, July 8, 1974; Amdt. 173–83, 39 FR

27574, July 30, 1974; Amdt. 173-94, 41 FR 16081, Apr. 15, 1976]

§ 173.315 Compressed gases in cargo tanks and portable tank containers.

(a) Cargo tanks and portable tank containers must not contain gases capable of combining chemically.

(1) Compressed gases must not be shipped in cargo tanks or portable tank containers except as provided in this section and §§ 173.32 and 173.33, and in the following table (for marking requirements see §§ 173.401 (a) (1) and 177.823 (d) of this subchapter):

Kind of gas	Maximum permitted filling density		Specification container required	
	Percent by weight (see Note 1)	Percent by volume (see par. (f) of this section)	Type (see Note 2)	Minimum design pressure (psig)
Anhydrous ammonia (see Note 14 and paragraph (1) of this section).	56	82; see Note 5	DOT-51, MC-330, MC-331; see Note 12.	265.
Anhydrous dimethylamine	59	See Note 7	DOT-51, MC-330, MC-331.	150.
Anhydrous monomethylamine	60	do	do	150.
Anhydrous trimethylamine	57	do	do	150.
Ammonia solution	See par. (c) of this section.	do	MC-330, MC-331; see Note 12.	100; see par. (c)(1) of this section.
Butadiene, inhibited	See par. (b) of this section.	See par. (b) of this section.	DOT-51, MC-330, MC-331.	100.
Carbon dioxide, liquefied	See par. (c) of this section.	95	do	200; see Note 3.
Chlorine	125	See Note 7	MC-330, MC-331	225; see Notes 4 and 8.
Dichlorodifluoromethane (see Note 9).	119	do	DOT-51, MC-330, MC-331.	150.
Dichlorodifluoromethane and difluoroethane mixture (constant boiling mixture) (see Note 9).	See par. (c) of this section.	do	MC-330, MC-331	250.
Dichlorodifluoromethane-dichlorotetrafluoroethane mixture (see Note 9).	119	do	DOT-51, MC-330, MC-331.	150.
Dichlorodifluoromethane-monofluorotrichloromethane mixture (see Note 9).	See par. (c) of this section.	do	do	150.
Difluoroethane	79	do	MC-330, MC-331	150.
Difluoromonochloroethane (see Note 9).	100	do	MC 330, MC 331	100.
Dimethyl ether (see Note 16)	59	do	do	200.
Hexafluoropropylene	110	do	do	250.
Liquefied petroleum gas (see Note 15).	See par. (b) of this section.	See par. (b) of this section.	DOT-51, MC-330, MC-331.	See par. (c)(1) of this section.
Methylacetylene-propadiene, stabilized (see Note 13).	53	90	DOT 51, MC 330, MC 331.	200.
Methyl chloride	84	88.5	do	150.
Methyl chloride (optional portable tank 2,000 pounds water capacity, fusible plug).	84	See Note 6	DOT-51	225.
Methyl mercaptan	80	90	DOT-51, MC-330, MC-331.	100.
Monochlorodifluoromethane (see Note 9).	105	See Note 7	do	250.
Nitrous oxide	See par. (c) of this section.	95	do	200; see Note 3.
Sulfur dioxide (tanks not over 1,200 gallons water capacity).	125	87.5	do	150; see Note 4.
Sulfur dioxide (tanks over 1,200 gallons water capacity).	125	87.5	do	125; see Note 4.
Sulfur dioxide (optional portable tank 1,000-2,000 pounds water capacity, fusible plug).	125	See Note 6	DOT-51	225.
Vinyl chloride	84 (see Note 13)	See Note 7	MC-330, MC-331	150.
Vinyl fluoride, inhibited	66	do	do	250; see Note 11.

NOTE 1: Maximum filling density for liquefied gases is hereby defined as the percent ratio of the weight of gas in the tank to the weight of water that the tank will hold. For determining the water capacity of the tank in pounds, the weight of a gallon (231 cubic inches) of water at 60° F. in air shall be 8.32828 pounds.

NOTE 2: See § 173.32 for authority to use other portable tanks.

NOTE 3: If cargo tanks and portable tank containers for carbon dioxide and nitrous oxide are designed to comply with the requirements of the ASME Code for Low Temperature Operation, the design pressure may be reduced to 100 p.s.i.g. or the controlled pressure, whichever is greater.

NOTE 4: In the design of tanks for sulfur dioxide and chlorine a corrosion allowance of 20 percent or 0.10 inch, whichever is less, must be added to the metal thickness. In chlorine tanks the wall thickness must be at least five-eighths inch, including corrosion allowance.

NOTE 5: Unlagged cargo tanks and portable tank containers for liquid anhydrous ammonia may be filled to 87.5 percent by volume provided the temperature of the anhydrous ammonia being loaded into such tanks is determined to be not lower than 30° F. or provided the filling of such tanks is stopped at the first indication of frost or ice formation on the outside surface of the tank and is not resumed until such frost or ice has disappeared.

NOTE 6: Tanks equipped with fusible plugs must be filled by weight.

NOTE 7: Tanks must be filled by weight.

NOTE 8: Chlorine cargo tank motor vehicles may be shipped only if the contents are to be unloaded at one unloading point.

NOTE 9: This gas may be transported in authorized cargo tanks and portable tanks marked "DISPERSANT GAS," or "REFRIGERANT GAS."

Note 10 [Reserved]

NOTE 11: MC 330 or MC 331 cargo tanks must be insulated. Cargo tanks must meet all of the following requirements. Each tank must be designed for a service temperature no higher than minus 100° F. and must comply with the low-temperature requirements of the ASME Code. The maximum allowable transportation distance before venting will occur, must be that normally accomplished within the holding time of the cargo tank as loaded with an added margin of 100 percent of the normal travel time. However, if the normal travel time exceeds 24 hours, the maximum allowable transportation distance before venting will occur may be that normally accomplished within the holding time of the cargo tank with an added margin of 24 hours. Before transportation in an empty condition, each cargo tank having previously transported inhibited vinyl fluoride must have been drained and vented or blown down sufficiently so that there will be no venting during movement of the empty tank. Shipments are authorized for transportation by private or contract carrier by motor vehicle only.

NOTE 12: No aluminum, copper, silver, zinc, or alloy of any of these metals shall be used in the cargo tank construction where it can come into contact with the lading.

NOTE 13: All parts of valves and safety devices in contact with contents of tank must be of a metal or other material suitably treated if necessary, which will not cause formation of any acetylides.

NOTE 14: Specifications MC 330 and MC 331 cargo tanks constructed of other than quenched and tempered steel ("NQT") are authorized for all grades of anhydrous ammonia. Specifications MC 330 and MC 331 cargo tanks constructed of quenched and tempered steel ("QT") (see marking requirements of § 177.823(b) (5) of this subchapter) are authorized for anhydrous ammonia having a minimum water content of 0.2 per cent by weight. Any tank being placed in anhydrous ammonia service or a tank which has been in other service or has been opened for inspection, test, or repair, must be cleaned of the previous product and must be purged of air before loading. See §§ 173.427(a) (3) and 177.817(a) (1) of this subchapter for special shipping paper requirements.

NOTE 15: Specs. MC 330 and MC 331 cargo tanks constructed of other than quenched and tempered steel (NQT) are authorized for all grades of liquefied petroleum gas. Only grades of liquefied petroleum gases determined to be "noncorrosive" are authorized in specs. MC 330 and MC 331 cargo tanks constructed of quenched and tempered steel (QT). "Noncorrosive" means the corrosiveness of the gas does not exceed the limitations for classification 1 of the ASTM Copper Strip Classifications when tested in accordance with ASTM D1838-64, "Copper Strip Corrosion by Liquefied Petroleum (LP) Gases" (For (QT) and (NQT) marking requirements see § 177.823(b) (5) of this subchapter. For special shipping paper requirements, see §§ 173.427(a) (4) and 177.817(a) (2) of this subchapter.)

NOTE 16: Specifications MC 330 and MC 331 cargo tanks must be equipped with emergency discharge controls that comply with § 178.337-11(c) of this subchapter.

(b) Maximum permitted filling densities for cargo and portable tank containers for transportation of butadiene, inhibited, and liquefied petroleum gas are as follows:

Maximum specific gravity of the liquid material at 60° F.	Maximum permitted filling density in percent of the water-weight capacity of the tanks		Maximum permitted filling density by volume
	1200 gallons or less	Over 1200 gallons	
	Percent	*Percent*	
0.473-0.480	38	41	See Note 1.
0.481-0.488	39	42	
0.489-0.495	40	43	
0.496-0.503	41	44	
0.504-0.510	42	45	
0.511-0.519	43	46	
0.520-0.527	44	47	
0.528-0.536	45	48	
0.537-0.544	46	49	See Note 1
0.545-0.552	47	50	
0.553-0.560	48	51	
0.561-0.568	49	52	
0.569-0.576	50	53	
0.577-0.584	51	54	
0.585-0.592	52	55	
0.593-0.600	53	56	
0.601-0.608	54	57	
0.609-0.617	55	58	
0.618-0.626	56	59	
0.627 and over	57	60	

NOTE 1: Same filling density as permitted by weight, except when using fixed length dip tube or other fixed maximum liquid level indicators (paragraph (f) of this section), in which case the maximum permitted filling density shall not exceed 97 percent of the maximum permitted filling density by weight contained in the table.

(1) *Odorization.* All liquefied petroleum gas shall be effectively odorized as required in Note 2 of this paragraph to indicate positively, by a distinctive odor, the presence of gas down to a concentration in air of not over one-fifth the lower limit of combustibility: *Provided, however,* That odorization is not required if harmful in the use or further processing of the liquefied petroleum gas, or if odorization will serve no useful purpose as a warning agent in such use or further processing.

NOTE 1: The lower limits of combustibility of the more commonly used liquefied petroleum gases are: Propane, 2.15 percent; butane, 1.55 percent. These figures represent volumetric percentages of gas-air mixtures in each case.

NOTE 2: The use of 1.0 pound of ethyl mercaptan, 1.0 pound of thiophane, or 1.4 pounds of amyl mercaptan per 10,000 gallons of liquefied petroleum gas shall be considered sufficient to meet the requirements of § 173.315(b)(1). This note does not exclude the use of any other odorant in sufficient quantity to meet the requirements of § 173.315(b)(1).

(c) The loading of liquefied gases into cargo tanks and portable tank containers shall be determined by weight or by suitable liquid level gauging device. In either case the liquid portion of the gas shall not fill the tank at 105° F. if the tank be lagged, nor at 115° F. if the tank be unlagged, except that this requirement shall be waived for the shipment of carbon dioxide and nitrous oxide in tanks (which are required to be equipped with suitable pressure controlling devices) which may be charged to a level corresponding to 95 percent of the volumetric capacity of the tank.

(1) The vapor pressure (psig) at 115° F. must not exceed the design pressure of the cargo tank or portable tank container.

(d) If the loading of cargo tanks and portable tank containers with liquefied gases is to be determined by weight, the gross weight shall be checked after the filling line is disconnected in each instance. The gross weight shall be calculated from the tank capacity and tare weight set forth on the metal plate required by the specification, and the maximum filling density permitted for the material being loaded into the tank as set forth in the table, paragraph (a)(1) of this section.

(e) If the loading of cargo tanks and portable tank containers with liquefied gases is to be determined by adjustable liquid level device, each tank and each compartment thereof shall have a thermometer well, so that the internal liquid temperature can easily be determined, and the amount of liquid in the tank shall be corrected to a 60° F. basis. Liquid levels shall not exceed a level corresponding to the maximum filling density permitted for the material being loaded into the tank as set forth in the table in paragraph (a)(1) of this section.

(f) When the loading of cargo tanks and portable tank containers with liquefied gases is determined only by fixed length dip tube or other fixed maximum liquid level indicator, the device shall be arranged to function at a level not to exceed the maximum permitted volume prescribed by the table, paragraph (a)(1) of this section. Loading shall be stopped when the device functions.

(g) Containers, the liquid level of which has been determined by means of a fixed length dip tube gauging device, shall not be acceptable for stowage as cargo on vessels in commerce subject to the jurisdiction of the United States Coast Guard. Nothing contained in this section shall be so construed as to prohibit the transportation on car floats or car ferries of motor vehicles laden with containers nor cargo tanks the liquid level of either of which has been determined by means of fixed length dip tube devices.

(h) Each cargo tank and portable tank, except a tank filled by weight, must be equipped with one or more of the gauging devices described in the following table which indicate accurately the maximum permitted liquid level. Additional gauging devices may be installed but may not be used as primary controls for filling of cargo tanks and portable tanks. Gauge glasses are not permitted on any cargo tank or portable tank. Primary gauging devices used on cargo tanks of less than 3500 gallons water capacity are exempt from the longitudinal location requirements specified in subparagraphs (2) and (3) of this paragraph provided: (1) The tank length does not exceed three times the tank diameter; and (2) the cargo tank is unloaded within 24 hours after each filling of the tank.

Kind of gas	Permitted gauging device
Anhydrous ammonia	Rotary tube; adjustable slip tube; fixed length dip tube.
Anhydrous dimethylamine	None.
Anhydrous monomethylamine.	None.
Anhydrous trimethylamine	None.
Aqua ammonia solution containing anhydrous ammonia.	Rotary tube; adjustable slip tube; fixed length dip tube.
Butadiene, inhibited	Rotary tube; adjustable slip tube; fixed length dip tube.
Carbon dioxide, liquefied	Rotary tube; adjustable slip tube; fixed length dip tube.
Chlorine	None.
Dichlorodifluoromethane	None.
Dichlorodifluoromethane and difluoroethane mixture (constant boiling mixture).	None.
Dichlorodifluoromethane-dichlorotetrafluoroethane mixture.	None.
Dichlorodifluoromethane-monofluorotrichloromethane mixture.	None.
Difluoroethane	None.
Difluoromonochloroethane	None.
Dimethyl ether	None.
Hexafluoropropylene	None.
Liquefied petroleum gases	Rotary tube; adjustable slip tube; fixed length dip tube.
Methyl chloride	Fixed length dip tube.
Methyl mercaptan	Rotary tube; adjustable slip tube; fixed length dip tube.
Monochlorodifluoromethane.	None.
Nitrous oxide	Rotary tube; adjustable slip tube; fixed length dip tube.
Methylacetylenepropadiene, stabilized.	Rotary tube; adjustable slip tube; fixed length dip tube.
Sulfur dioxide	Fixed length dip tube.
Vinyl chloride	None.
Vinyl fluoride, inhibited	None.

(1) The design pressure of the liquid level gauging devices shall be at least equal to the design pressure of the tank.

(2) If the primary gauging device is adjustable, it must be capable of adjustment so that the end of the tube will be in the location specified in subparagraph (3) of this paragraph for at least one of the ladings to be transported, at the filling level corresponding to an average loading temperature. Exterior means must be provided to indicate this adjustment. The gauging device must be legibly and permanently marked in increments not exceeding 20 Fahrenheit degrees (or not exceeding 25 p.s.i.g. on tanks for carbon dioxide or nitrous oxide), to indicate the maximum levels to which the tank may be filled with liquid at temperatures above 20° F. However, if it is not practicable to so mark the gauging device, this information must be legibly and permanently marked on a plate affixed to the tank adjacent to the gauging device.

(3) A dip tube gauging device consists of a pipe or tube with a valve at its outer end with its intake limited by an orifice not larger than 0.060 inch in diameter. If a fixed length dip tube is used, the intake must be located midway of the tank both longitudinally and laterally and at maximum permitted filling level. In tanks for liquefied petroleum gases, the intake must be located at the level reached by the lading when the tank is loaded to maximum filling density at 40° F.

(4) Each opening for a pressure gauge, except on a tank used exclusively for the transportation of carbon dioxide or nitrous oxide, must be restricted at or inside the tank by an orifice no larger than 0.060 inch in diameter.

(i) Each tank must be provided with one or more safety relief devices which, unless otherwise specified in this Part, must be safety relief valves of the spring-loaded type. Each valve must be arranged to discharge upward and unobstructed to the outside of the protective housing to prevent any impingement of escaping gas upon the tank. For each chlorine tank the protective housing must be in compliance with the requirements set forth in the applicable specification.

(1) Safety relief valves on each tank must have a total relieving capacity as determined by the flow formulas contained in CGA Pamphlet S–1.2. Safety relief valves must have a total relieving capacity sufficient to prevent a maximum pressure in the tank of more than 120 percent of the design pressure. For an insulated tank the required relieving capacity of the relief valves must be the same as for an uninsulated tank, unless the insulation will remain in place and will be effective under fire conditions. In this case, each insulated tank must be covered by a sheet metal jacket of not less than 16 gauge thickness. An MC 330 cargo tank that has safety relief valves sized by Fetterly's formula dated November 27, 1928, may be continued in service. Copies of this formula may be obtained from the Bureau of Explosives.

(2) Each safety relief valve must be arranged to minimize the possibility of tampering. If the pressure setting or adjustment is external to the valve, the safety relief valve must be provided with means for sealing the adjustment and it must be sealed.

(3) Each safety relief valve on a tank must be set to start-to-discharge at pressure no higher than 110 percent of the tank design pressure and no lower than the design pressure specified in paragraph (a)(1) of this section for the gas transported.

(4) Each safety relief valve must be plainly and permanently marked with the pressure in p.s.i.g. at which it is set to discharge, with the actual rate of discharge of the device in cubic feet per minute of the gas or of air at 60° F. and 14.7 p.s.i.a., and with the manufacturer's name or trade name and catalog number. The start-to-discharge valve must be visible after the valve is installed. The rated discharge capacity of the device must be determined at a pressure of 120 percent of the design pressure of the tank.

(5) Each safety relief valve must have direct communication with the vapor space in the tank.

(6) Each connection to a safety relief valve must be of sufficient size to provide the required rate of discharge through the safety relief valve.

(7) No shut-off valve may be installed between a safety relief valve and the tank except in cases where two or more safety relief valves are installed on the same tank, and one or more safety shut-off valves are arranged to always provide the required relief capacity through at least one of the safety relief valves.

(8) Each safety relief valve outlet must be provided with a protective device to prevent the entrance and accumulation of dirt and water. This device must not impede flow through the valve.

(9) On tanks for carbon dioxide or nitrous oxide, each safety relief device must be installed and located so that the cooling effect of the contents will not prevent the effective operation of the device. In addition to the required safety relief valves, these tanks may be equipped with one or more pressure controlling devices.

(10) Each tank for carbon dioxide also may be equipped with one or more frangible disc devices set to function at a pressure not over two times nor less than 1.5 times the design pressure of the tank.

(11) Each portion of connected liquid piping or hose that can be closed at both ends must be provided with a safety relief valve without an intervening shut-off valve to prevent excessive hydrostatic pressure that could burst the piping or hose.

(12) Subject to conditions of paragraph (a)(1) of this section for the methyl chloride and sulfur dioxide optional portable tanks, one or more fusible plugs approved by the Bureau of Explosives may be used on these tanks in place of safety relief valves of the spring-loaded type. The fusible plug or plugs must be in accordance with CGA Pamphlet S–1.2, to prevent a pressure rise in the tank of more than 120 percent of the design pressure. If the tank is over 30 inches long, each end must have the total specified safety discharge area.

(13) A safety relief valve on a chlorine tank motor vehicle must conform to one of the following standards of The Chlorine Institute, Inc.: Type 1½ JQ225, Dwg. H51970, dated October 7, 1968; or Type 1½ JQ225, Dwg. H50155, Revision A, dated April 28, 1969.

(j) Storage containers for liquefied petroleum gas for permanent installation on consumer premises may be shipped by private motor carrier only under the following conditions:

(1) Each container must be constructed in compliance with the requirements of the ASME Code (containers built in compliance with earlier editions starting with 1943 are authorized) and must be marked to indicate compliance in the manner specified by the respective Code.

(2) Each container must be equipped with safety devices in compliance with the requirements for safety devices on containers as specified in NFPA Pamphlet No. 58.

(3) The containers shall be so braced or otherwise secured on the vehicle as to prevent relative motion while in transit. Valves or other fittings shall be adequately protected against injury during transportation. (See § 177.834 (g) of this subchapter.)

(4) Except as provided in subparagraph (j) (5) of this paragraph, containers shall not be shipped when charged with liquefied petroleum gas to more than 5 percent of their water capacity.

(5) Storage containers of less than 1042 pounds water capacity (125 gallons) may be shipped when charged with liquefied petroleum gas in compliance with DOT filling density.

(k) For manifolding of cargo tank containers see § 173.301(d).

(l) Anhydrous ammonia must not be offered for transportation or transported in specification MC 330 and MC 331 cargo tanks constructed of quenched and tempered ("QT") steel except as provided in this paragraph.

(1) The ammonia must have a minimum water content of 0.2 per cent by weight. Any addition of water must be made using steam condensate, de-ionized, or distilled water.

(2) Except as otherwise provided in this paragraph, each person offering for transportation or transporting anhydrous ammonia shall perform a periodic analysis for prescribed water content in the ammonia. The analysis must be performed—

(i) From a sample of the ammonia in storage taken at least once every 7 days, or each time ammonia is added to the storage tanks, whichever is less frequent; or

(ii) At the time the cargo tanks are loaded, then a sample of the ammonia taken from at least one loaded cargo tank out of each 10 loads, or from one cargo tank every 24 hours, whichever is less frequent; or

(iii) At the same frequency as described in subparagraph (ii) of this paragraph, from a sample taken from the loading line to the cargo tank.

(3) If water is added at the time of loading—

(i) The sample for analysis must be taken from a point in the loading line between the water injection equipment and the cargo tank; and

(ii) Positive provisions must be made to assure water injection equipment is operating.

(4) If water injection equipment becomes inoperative, suitable corrective maintenance must be performed after which a sample from the first loaded cargo tank must be analyzed for prescribed water content.

(5) The analysis method for water content must be as prescribed in CGA Pamphlet G–2.2, titled "Tentative Standard Method for Determining Minimum of 0.2 per cent water in Anhydrous Ammonia," 1975 edition.

(6) Records indicating the results of the analysis taken, as required by this paragraph, must be retained for 2 years and must be open to inspection by representative of the Department.

(7) Each person receiving anhydrous ammonia containing 0.2 per cent water by weight may offer for transportation or transport that ammonia without performing the prescribed analysis for water content provided—

(i) The ammonia received was certified as containing 0.2 per cent water as prescribed in §§ 173.427(a)(3) and 177.817(a)(1) of this subchapter; and

(ii) The amount of water in the ammonia has not been reduced by any means.

(18 U.S.C., Sec. 6 Department of Transportation Act (49 U.S.C. 1655) (49 U.S.C. 1655(c)) [29 FR 18743, Dec. 29, 1964, as amended by Order 67, 30 FR 7422, June 5, 1965; Order 71, 32 FR 413, Jan. 14, 1967. Redesignated at 32 FR 5606, Apr. 5, 1967, as amended by Amdt. 173-1, 33 FR 2389, Jan. 31, 1968; Amdt. 173-2, 33 FR 7494, May 21, 1968; Amdt. 173-16, 34 FR 18248, Nov. 14, 1969; Amdt. 173-33, 35 FR 13837, Sept. 1, 1970; Amdt. 173-46, 36 FR 9520, May 26, 1971; Amdt. 173-47, 36 FR 10952, June 5, 1971; Amdt. 173-49, 36 FR 13093, Oct. 5, 1973; Amdt. 173-85, 39 FR 41744, Dec. 20, 1974; Amdt. 173-91, 40 FR 24903, June 11, 1975; Amdt. 173-91, 40 FR 44820, Sept. 30, 1975; Amdt. 173-94, 41 FR 16081, Apr. 15, 1976]

§ 173.316 Liquefied hydrogen.

(a) Liquefied hydrogen (minimum 95 percent parahydrogen) must be charged into specification containers as follows:

(1) Spec. 113A60 W-2 (§§ 179.400 and 179.401 of this subchapter). Tank cars. Each tank car shall have a pressure controlling valve set at a pressure not exceeding 17 psig. The maximum permitted filling density is 6.6 percent.

(2) Specification 4L (§ 178.57 of this subchapter) cylinders, in accordance with the following requirements:

(i) Service temperature: minus 423° F. or colder.

(ii) Maximum filling density, based on cylinder capacity at minus 423° F.: 6.7 percent.

(iii) Pressure must be limited by a pressure-controlling valve set to limit pressure to not more than 17 psi.

(iv) Each cylinder must be constructed, insulated, and maintained so that during transportation the total rate of venting shall not exceed 30 standard cubic feet of hydrogen per hour.

(v) In addition to the marking required by § 178.57-20 of this chapter, the total rate of venting in standard cubic feet per hour shall be marked on the top of each head or valve protection band in letters at least one-half inch high as follows: "VENT RATE ** CFH" with the stars replaced by figures signifying the standard hydrogen venting rate for the cylinder.

(vi) Transportation is limited to private and contract motor carriers under conditions specified in § 177.840(a)(1) of this subchapter.

(vii) Pressure in each cylinder must be reduced to 8 psig or lower at least once within 4 hours before the beginning of transportation.

[29 FR 18743, Dec. 29, 1964. Redesignated at 32 FR 5606, and amended by Amdt. 173-6, 34 FR 7161, May 1, 1969; Amdt. 173-94, 41 FR 16081, Apr. 15, 1976]

Subpart H—Poisonous Materials, Etiologic Agents, and Radioactive Materials; Definitions and Preparation

SOURCE: 29 FR 18753, Dec. 29, 1964, unless otherwise noted. Redesignated at 32 FR 5606, Apr. 5, 1967.

§ 173.325 Classes of poisonous materials.

(a) Poisonous materials for the purpose of this subchapter are divided into three groups according to the degree of hazard in transportation.

(1) Poison A.
(2) Poison B.
(3) Irritating material.

[Amdt. 173-94, 41 FR 16081, Apr. 15, 1976]

§ 173.326 Poison A.

(a) For the purpose of Parts 170-189 of this subchapter extremely dangerous poisons, class A, are poisonous gases or liquids of such nature that a very small amount of the gas, or vapor of the liquid, mixed with air is dangerous to life. This class includes the following:

(1) Bromacetone.
(2) Cyanogen.
(3) Cyanogen chloride containing less than 0.9 percent water.
(4) Diphosgene.
(5) Ethyldichlorarsine.
(6) Hydrocyanic acid (see Note 1 of this paragraph).
(7) [Reserved]
(8) Methyldichlorarsine.
(9) [Reserved]
(10) Nitrogen peroxide (tetroxide).
(11) [Reserved]
(12) Phosgene (diphosgene).
(13) Nitrogen tetroxide-nitric oxide mixtures containing up to 33.2 percent weight nitric oxide.

NOTE 1: Diluted solutions of hydrocyanic acid of not exceeding 5 percent strength are classed as poisonous articles, class B (see § 173.343).

(b) Poisonous gases or liquids, class A, as defined in paragraph (a) of this section, except as provided in § 173.331, must not be offered for transportation by rail express.

[29 FR 18753, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16081, Apr. 15, 1976; Amdt. 73-94A, 41 FR 40683, Sept. 20, 1976]

§ 173.327 General packaging requirements for Poison A materials.

(a) Cylinders must be maintained in compliance with the requirements of § 173.34. Valves must be capable of withstanding the test pressure of the cylinders and must have taper-threaded connections directly to the cylinders (no bushings or straight-threaded connections of valves to cylinders permitted). For corrosive commodities, valves may be of the packed type provided the assembly is made gas-tight by means of a seal cap with compatible gasketed joint to the valve body or to the cylinder to prevent loss of commodity through or past the packing; otherwise the valves must be of the packless type with nonperforated diaphragms and handwheels. Each valve outlet must be sealed by a threaded cap or a threaded solid plug. The outlet caps and plugs, luting, and gaskets must be compatible with each other, the valve assembly, and the lading.

(1) The pressure of the poison gas at 130° F. must not exceed the service pressure of the cylinder. Cylinders must not be liquid full at 130° F.

(2) Cylinders packed in boxes must have adequate protection for valves. Box and valve protection must be of strength sufficient to protect all parts of cylinders and valves from deformation or breakage resulting from a drop of at least 6 feet onto a concrete floor, impacting at the weakest point. A cylinder not overpacked in a box must be equipped with a protective cap or other means of valve protection which must be capable of preventing damage to or distortion of the valve if it were subjected to an impact test as follows: The cylinder, prepared as for shipment, is allowed to fall from an upright position with the side of the cap or other valve protection striking a solid steel object projecting not more than 6 inches above the floor level.

(b) Closing and cushioning. All containers must be tightly and securely closed. Inside containers must be cushioned as prescribed, or in any case when necessary to prevent breakage or leakage.

(c) No class A poisons in cargo tanks. No "extremely dangerous poison, class A," may be loaded into or transported in any cargo tank.

(d) It shall not be permissible to transport class A poison if there be any interconnecting means of any character between the containers.

(e) Unless otherwise specified in this subchapter, packaging used for the transportation of any Poison A material may not be completely filled. Sufficient outage must be provided so that the packaging will not be liquid full at 130° F. (55° C.).

(f) Each tank car, except series 106A*** and 110A***, containing Poison A materials must be marked with the name of contents (§ 172.101 of this subchapter) in accordance with the requirements of § 172.330 of this subchapter.

[29 FR 18753, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-42, 36 FR 1473, Jan. 30, 1971; Amdt. 173-94, 41 FR 16082, Apr. 15, 1976; Amdt. 173-94A, 41 FR 40683, Sept. 20, 1976]

§ 173.328 Poison A materials not specifically provided for.

(a) Poison A materials, as defined in § 173.326, other than those for which special packaging requirements are prescribed in this part, must be packaged as follows:

(1) Spec. 33[1] or 3D (§ 178.41 of this chapter). Metal cylinders of not over 125 pounds water capacity (nominal). Gaskets if used between the protection

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[1] Use of existing cylinders authorized, but new construction not authorized.

cap and neck of cylinder must be renewed for each shipment even though they may appear to be in good condition. Cylinders not fitted with valve protection extension ring must be packed in wooden boxes complying as to construction, marking, and labeling, with the requirements of § 173.25.

(2) Specification 3A1800, 3AA1800 or 3E1800 (§§ 178.36, 178.37, 178.42) cylinders.

(i) Specifications 3A and 3AA cylinders must not exceed 125 pounds water capacity (nominal). Cylinders must have valve protection or be packed in strong wooden or metal boxes as described in § 173.327(a)(2) of this chapter.

(ii) Specification 3E1800 cylinders must be packed in strong wooden or metal boxes.

[29 FR 18743, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-42, 36 FR 1473, Jan. 30, 1971; Amdt. 173-94, 41 FR 16082, Apr. 15, 1976]

§ 173.329 Bromacetone; chlorpicrin and methyl chloride mixtures; chlorpicrin and nonflammable, nonliquefied compressed gas mixtures.

(a) Bromacetone, when offered for transportation by carriers by rail freight, highway, or water, must be packed in specification containers as follows:

(1) As prescribed in § 173.328.

(2) Spec. 15A, 15B, 15C, or 16A (§§ 178.168, 178.169, 178.170, or 178.185 of this subchapter). Wooden boxes with inside glass bottles or tubes in hermetically sealed metal cans in corrugated fiberboard cartons, spec 2C (§ 178.22 of this subchapter). Bottles must contain not over 1 pound of liquid each, must be filled to not over 95 percent capacity, must be tightly and securely closed, and must be cushioned in cans with at least ½ inch of absorbent material. Cans must be made of metal at least 32 gauge United States standard. Total amount of liquid in outside box must not exceed 24 pounds.

(b) *Chlorpicrin and methyl chloride mixtures.* Chlorpicrin and methyl chloride mixtures, in addition to containers prescribed in § 173.328, when offered for transportation by carriers by rail freight, highway, or water, may be shipped in specification containers as follows:

(1) Specification 3A, 3AA, 3B, 3C, 3E, 4A, 4B, 4BA, 4BW, or 4C (§§ 178.36, 178.37, 178.38, 178.40, 178.42, 178.49, 178.50, 178.51, 178.61, or 178.52 of this subchapter) cylinders having not over 250 pounds water capacity (nominal). Valves or other closing devices must be protected to prevent damage in transit, by screw-on metal caps or by packing the cylinders in strong boxes or crates. Cylinders having a wall thickness of less than 0.10 inch must be packed in boxes or crates (see § 173.25).

(c) *Chlorpicrin and nonflammable, nonliquefied compressed gas mixtures.* Chlorpicrin and nonflammable, nonliquefied compressed gas mixtures, in addition to containers prescribed in § 173.328, when offered for transportation by carriers by rail freight, highway, or water, must be shipped in specification containers as follows:

(1) Specification 3A, 3AA, 3B, 3C, 3E, 4A, 4B, 4BA, 4BW, or 4C (§§ 178.36, 178.37, 178.38, 178.40, 178.42, 178.49, 178.50, 178.51, 178.61, or 178.52 of this subchapter) cylinders having not over 250 pounds water capacity (nominal). Valves or other closing devices must be protected to prevent damage in transit, by screw-on metal caps or by packing the cylinders in strong boxes or crates. Cylinders having a wall thickness of less than 0.10 inch must be packed in boxes or crates (see § 173.25).

[29 FR 18753, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-11, 34 FR 12592, Aug 1, 1969; Amdt. 173-94, 41 FR 16082, Apr. 15, 1976]

§ 173.330 Chemical ammunition.

(a) Projectiles, shells, bombs, and grenades containing Poison A materials but not equipped or packaged with ignition elements, bursting charges, detonating fuzes, or explosive components, may be shipped only by, for, or to the Department of Defense. Each shipment must be packaged, marked, and labeled as required by their regulations. Each package must be labeled with POISON GAS label marked "NONEXPLOSIVE" and also marked with the proper shipping name. (See §§ 173.53(r) and 173.59 for explosive chemical ammunition.)

(b) Chemical ammunition containing poisonous liquids or gases, class A, must not be offered for transportation by rail express.

[29 FR 18753, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16082, Apr. 15, 1976]

§ 173.331 Gas identification sets.

(a) Gas identification sets containing Poison A materials, irritating materials, and chlorine must be packaged in specification 15A or 15B (§§ 178.168, 178.169 of this subchapter). Wooden boxes, under the following conditions:

(1) Gas identification sets containing Poison A materials and irritating materials may be shipped in amounts not exceeding 6 cubic centimeters, if a liquid, or 5 grams, if a solid, when mixed with or absorbed in activated charcoal or silica gel, or other absorbent medium, and packed in strong glass bottles of not less than 4 fluid ounces capacity. The Poison A materials and chlorine may be shipped if the gas itself is absorbed in activated charcoal or silica gel, or other absorbent medium, and packed in the same type 4-ounce bottles as described above. Each bottle as herein specified must be surrounded with appropriate absorbent cushioning material, and enclosed in a hermetically sealed metal can. Each can must be surrounded on all sides by at least 1 inch of dry, fine sawdust or wood pulp. The cans must be packed in an outside wooden box, specification 15A or 15B (§§ 178.168, 178.169 of this subchapter). The bottles must be closed with ground-in glass stoppers securely fastened. The cushioning material around the bottle must be at least 1 inch thick. The cans must be made from metal of thickness not less than 30 gauge, United States standard. There must be not more than a total of 100 grams or cubic centimeters or a combination of both, in each outside wooden box.

(b) Gas identification sets containing Poison A materials and irritating materials must be packaged as follows:

(1) The liquids or liquefied gases in hermetically sealed glass tubes containing not to exceed 40 cubic centimeters each. Each tube must be securely cushioned and packed in an individual mailing tube with screw-thread metal cover. Not more than 12 such mailing tubes, cushioned with corrugated fiberboard, may be packed in a closed fiberboard container, not to exceed 4 such fiberboard containers, containing an aggregate of not to exceed 48 glass tubes cushioned and packed in an outside steel cylinder of not less than 0.145-inch wall thickness, which is closed by a plate, bolted to a flange welded to cylinder wall. Suitable gasket must be placed between flange and head plate, and closure must prevent leakage of any gas.

(c) Gas identification training sets containing Poison A materials and irritating materials must be packaged as follows:

(1) The Poison A materials and irritating material, in amounts not exceeding 5 cubic centimeters, if a liquid, or 20 grams, if a solid, when mixed with or absorbed in activated charcoal, silica gel, crepe rubber, or other absorbent medium, must be packed in strong glass bottles of not less than 2 fluid ounces capacity, equipped with a polyethylene liner; each bottle as herein specified must have a metal screw-cap closure, equipped with a built-in compression type spring and an insert in the opening of the bottle to match so that when tightened an airtight seal is obtained. Twelve bottles, containing articles as described in this paragraph and not exceeding 100 cubic centimeters or grams, or a combination of both, must be placed in a modified styrene plastic carrying case, in three rows of four bottles each and fitted with a fiberboard cell or separator. The void space around the individual bottles, and around all interior sides of the carrying case, must be filled with dry, fine sawdust or vermiculite. A sheet of sponge rubber must be fitted to the inside of the top and bottom of the carrying case to provide additional cushioning and insure a snug fit of the bottles when the top is secured. The carrying case must be fitted into a snug fitting fiberboard box, domestic type. The case must then be packed in a nailed wooden box, specification 15A or 15B (§§ 178.168, 178.169 of this subchapter), which must be fitted with a waterproof case liner.

[Amdt. 173-94, 41 FR 16082, Apr. 15, 1976]

§ 173.332 Hydrocyanic acid, liquid (prussic acid) and hydrocyanic acid liquefied.

(a) Hydrocyanic acid, liquid (prussic acid) and hydrocyanic acid liquefied, must be packed in specification containers as follows:

(1) As prescribed in § 173.328.

(2) Spec. 3A480, 3AA480, or 3A480X (§§ 178.36, 178.37, or 178.43 of this sub-

chapter). Metal cylinders of not over 278 pounds water capacity (nominal); valve protection cap must be used and be at least 3/16 inch thick, gas-tight, with 3/16 inch faced seat for gasket and with United States standard form thread; the cap must be capable of preventing injury or distortion of the valve when it is subjected to an impact caused by allowing cylinder, prepared as for shipment, to fall from an upright position with side of cap striking a solid steel object projecting not more than 6 inches above floor level.

(b) Cylinders must be charged with not more than 0.6 pound of liquid for 1-pound water capacity of cylinder. Each filled cylinder must be tested for leakage before shipment and must show absolutely no leakage; this test must consist in passing over the closure of the cylinder, without the protection cap attached, a piece of Guignard's sodium picrate paper to detect any escape of hydrocyanic acid from the cylinder. Other equally efficient test methods may also be used in lieu of the picrate paper.

(c) Liquid hydrocyanic acid completely absorbed in inert material may also be shipped in specification containers as follows:

(1) Spec. 15A (§ 178.168 of this subchapter). Wooden boxes with inside containers consisting of metal cans, spec. 2N (§ 178.32 of this subchapter), not over 14 pounds water capacity each. The liquid contents of each can must not exceed 0.33 pound of liquid for 1-pound water capacity of the can. Each can containing 4 ounces or more of liquid must be fitted with fiber caps not less than 0.08 inch thick flanged about 1 inch and fitting snugly over each end of the can. Each can must be tested for leakage after being filled and again after being maintained at ordinary room temperature for a period of at least three weeks. Each can must have its outer surface protected against rust by the use of enamel or lacquer, or each can must be completely wrapped in waterproof paper.

(2) The box lining must consist of not more than two pieces of waterproof paper, one piece completely surrounding the contents and running lengthwise of the box, and the other piece completely surrounding the contents and running crosswise of the box. In each instance, the wrapping must overlap at least 4 inches.

(3) Spec. 12B (§ 178.205) of this subchapter). Fiberboard boxes, constructed in accordance with requirements for a gross weight of 65 pounds but having a gross weight of not over 70 pounds, with inside containers consisting of metal cans, spec. 2N (§ 178.32 of this subchapter). The liquid contents of each can must not exceed 0.33 pound of liquid for 1-pound water capacity of the can and the total weight of liquid in each can must not exceed 41 ounces. Each can must be tested for leakage after being filled and again after being maintained at ordinary room temperature for a period of at least three weeks. Each can must have its outer surface protected against rust by the use of enamel or lacquer. Not more than twelve cans shall be packed in the outside fiberboard box and each can shall be separated from the other by 200-pound minimum test fiberboard partitions. Each box shall be provided with 200-pound minimum test fiberboard liner and top and bottom pads of the same material. In addition to the required closure of the boxes, two metal straps measuring ½ inch by .015 inch must be applied around the girth of each box.

(d) Spec. 105A500-W or 105A600-W (§§ 179.100 and 179.101 of this subchapter). Tank cars. Tank must be restenciled 105A300-W and be equipped with safety valves of the type and size used on spec. 105A300-W (§§ 179.100 and 179.101 of this subchapter) tank car. Tank car tank must be equipped with approved dome fittings and safety devices, and with cork insulation at least 4 inches in thickness. Tank must be stenciled on both sides in letters not less than 2 inches high "HYDROCYANIC ACID ONLY." Written procedure covering details of tank car appurtenances, dome fittings and safety devices, and marking, loading, handling, inspection, and testing practices shall be filed with and approved by the Bureau of Explosives before any tank car is offered for transportation of hydrocyanic acid. The maximum permitted filling density is 63 percent of the water capacity of the tank.

[29 FR 18753, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16082, Apr. 15, 1976]

§ 173.333 Phosgene or diphosgene.

(a) Phosgene or diphosgene must be packed in specification containers as follows:

(1) As prescribed in § 173.328, the filling density (see § 173.304(a)(2) Table Note 1) must not exceed 125 percent and a cylinder must not contain more than 150 pounds of phosgene.

(2) Specification 106A500X (§§ 179.300, 179.301 of this subchapter) tanks. Authorized only for phosgene. Each tank must be approved by the Bureau of Explosives. Tanks must not be equipped with safety devices of any type. Outage must be sufficient to prevent tanks from becoming liquid full at 130° F. (55° C.). (See §§ 174.200 and 177.834(m) of this subchapter for special requirements for rail and highway shipments.)

(b) Each filled cylinder must be tested for leakage before shipment and must show absolutely no leakage; this test must consist in immersing the cylinder and valve, without the protection cap attached, in a bath of water at a temperature of approximately 150° F. for at least thirty minutes, during which time frequent examinations must be made to note any escape of gas. The valve of the cylinder must not be loosened after this test and before shipment.

[29 FR 18753, Dec. 29, 1974. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-34, 35 FR 13836, Sept. 1, 1970; Amdt. 173-94, 41 FR 16082, Apr. 15, 1976]

§ 173.334 Organic phosphates mixed with compressed gas.

(a) Hexaethyl tetraphosphate, parathion, tetraethyl dithio pyrophosphate, tetraethyl pyrophosphate, or other Poison B organic phosphate, n.o.s. (including a compound or mixture), may be mixed with a compressed gas which must be nonflammable. This mixture must not contain more than 20 percent by weight of organic phosphate and must be packaged as follows:

(1) Specification 3A240, 3AA240, 3B240, 4A240, 4BA240, or 4BW240 (§§ 178.36, 178.37, 178.38, 178.49, 178.50, 178.51, 178.61, of this subchapter) cylinders meeting the following requirements;

(i) Each cylinder may be charged with not more than 10 pounds of the mixture, to a maximum filling density of not more than 80 percent of the water capacity;

(ii) Each cylinder must be charged in compliance with § 173.301 (e) and (f);

(iii) No cylinder may be equipped with an eduction tube or a fusible plug;

(iv) No cylinder may be equipped with any valve unless the valve is a type approved by the Department for this installation.

(v) Cylinders must be overpacked in a box so arranged to protect each valve or other closing device from damage. No more than four cylinders may be packed in a box except that in a wooden box, up to 12 cylinders may be so packed. Each box with its closing device protection must be sufficiently strong to protect all parts of each inside cylinder from deformation or breakage if the completed package were dropped six feet onto solid concrete, impacting at the weakest point.

(b) Cylinders must be packed in strong wooden boxes with valves or other closing devices protected from injury, with not more than twelve cylinders in one outside wooden box. A single-trip outside fiberboard box may be used when not more than four such cylinders are to be shipped in one outside container. Valves must be adequately protected. Box and valve protection must be of strength sufficient to protect all parts of inside containers and valves from deformation or breakage resulting from a drop of at least six feet onto a concrete floor, impacting at the weakest point.

[29 FR 18753, Dec. 29, 1964, as amended by Order 71, 31 FR 9072, July 1, 1966. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16082, Apr. 15, 1967]

§ 173.335 [Reserved]

§ 173.336 Nitrogen dioxide, liquid; nitrogen peroxide, liquid; and nitrogen tetroxide, liquid.

(a) Nitrogen dioxide, liquid, nitrogen peroxide, liquid, and nitrogen tetroxide, liquid must be packed in specification containers as follows:

(1) As prescribed in § 173.328.

(2) Spec. 3A480 or 3AA480 (§ 178.36 or § 178.37 of this subchapter) or 25.[1] Metal

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[1] Use of existing cylinders authorized, but new construction not authorized.

cylinders with valve removed; valve opening to be closed by means of a solid metal plug with tapered thread properly luted to prevent leakage; valve protection cap must be used and be at least 3/16 inch thick, gastight, with 3/16 inch faced seat for gasket and with United States standard form thread. Use of this container will be permitted because of the present emergency and until further order of the Department.

(3) Specification 106A500X (§§ 179.300, 179.301 of this subchapter) tanks. Each tank must be equipped with gastight valve protection caps which must be approved by the Bureau of Explosives. Tanks must not be equipped with safety devices of any type. Outage must be sufficient to prevent tanks from becoming liquid full at 130° F. (55° C.). (See §§ 174.200 and 177.834(m) of this subchapter for special requirements for rail and highway shipments.)

(4) Spec. 105A500-W (§§ 179.100, 179.101 of this subchapter). Tank cars. Authorized for nitrogen tetroxide only. Tanks must be lagged with not less than a four-inch thickness of cork. All valves and fittings shall be protected by a securely attached cover made of metal not subject to deterioration by the lading, and all valve openings, except the safety valve, shall be fitted with screw plugs or caps to prevent leakage in the event of valve failure. Safety valve must be equipped with an approved stainless steel or platinum frangible disc. Tank must be stenciled on both sides in letters not less than 2 inches high "NITROGEN TETROXIDE ONLY." Written procedure covering details of tank car appurtenances, dome fittings and safety devices, and marking, loading, handling, inspection, and testing practices shall be filed with and approved by the Bureau of Explosives before any tank car is offered for transportation of nitrogen tetroxide.

[29 FR 18753, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-18, 35 FR 11[illegible], Jan. 28, 1970; Amdt. 173-94, 41 FR 16082, Apr. 15, 1976]

§ 173.337 Nitric oxide.

(a) Nitric oxide must be packed in specification containers as follows:

(1) Spec. 3A, 3AA, or 3E1800 (§ 178.36, § 178.37, or § 178.42 of this subchapter) cylinders designed and marked for a service pressure of 1800 pounds per square inch or higher, charged to a pressure of not more than 750 pounds per square inch at 70° F. Cylinders must be equipped with a valve of stainless steel and valve seat of material which will not be deteriorated by contact with nitric oxide or nitrogen dioxide. Containers or valves must not be equipped with safety devices of any type. Valve outlets must be sealed by a solid threaded cap or plug and an inert gasketing material.

(2) Spec. 3E1800 (§ 178.42 of this subchapter) cylinders must be packed in strong wooden boxes of such design as to protect valves from injury or accidental functioning under conditions incident to transportation. Each outside shipping container must be plainly marked "inside containers comply with prescribed specifications."

(3) Spec. 3A and 3AA (§§ 178.36 and 178.37 of this subchapter) cylinders must have their valves protected by metal caps securely attached to the cylinders and of sufficient strength to protect the valves from injury during transit, or by packing in strong wooden boxes of such design as to protect valves from injury or accidental functioning under conditions incident to transportation. Each outside shipping container must be plainly marked "inside containers comply with prescribed specifications."

(4) Specification 106A500X (§§ 179.300, 179.301 of this subchapter) tanks. Nitric oxide charge in each tank may not exceed 200 p.s.i.g. at 70° F. Each tank must be equipped with gas-tight valve protection caps (see § 179.302 of this subchapter). Each valve outlet must be sealed by a threaded solid plug or a threaded cap with inert luting or gasket material. Valves must be of stainless steel and the caps, plugs, and valve seats must be of material that will not be deteriorated by contact with nitric oxide or nitrogen dioxide. The tank may not be equipped with any safety relief device.

[29 FR 18753, Dec. 29, 1964. Redesignated, 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173-73, 38 FR 20085, July 27, 1973; Amdt. 173-94, 41 FR 16082, Apr. 15, 1976]

§ 173.338 Nitrogen tetroxide—nitric oxide mixtures containing up to 33.2 percent weight nitric oxide.

(a) Nitrogen tetroxide-nitric oxide mixtures containing up to 33.2 percent weight nitric oxide must be packed in specification containers as follows:

(1) As prescribed in § 173.328.

(2) Spec. 3A480 or 3AA480 (§ 178.36 or § 178.37 of this subchapter). Metal cylinders with valve removed; valve opening to be closed by means of a solid metal plug with tapered thread properly luted to prevent leakage; valve protection cap must be used and be at least 3/16 inch thick, gastight, with 3/16 inch faced seat for gasket and with United States standard form thread.

(3) Specification 106A500X (§§ 179.300, 179.301 of this subchapter) tanks. Each tank must be equipped with gastight valve protection caps which must be approved by the Bureau of Explosives. Tanks must not be equipped with safety devices of any type. Outage must be sufficient to prevent tanks from becoming liquid full at 130° F. (55° C). (See §§ 174.200 and 177.834(m) of this subchapter for special requirements for rail and highway shipments.)

(4) Spec. 105A500-W (§§ 179.100, 179.101 of this subchapter). Tank cars. Tanks must be lagged with not less than a four-inch thickness of cork. All valves and fittings shall be protected by a securely attached cover made of metal not subject to deterioration by the lading and all valve openings, except the safety valve, shall be fitted with screw plugs or caps to prevent leakage in the event of valve failure. Safety valve must be equipped with an approved stainless steel or platinum frangible disc. Tank must be stenciled on both sides in letters not less than 2 inches high "NITROGEN TETROXIDE-NITRIC OXIDE MIXTURES ONLY." Written procedures covering details of tank car appurtenances, dome fittings and safety devices, and marking, loading, handling, inspection, and testing practices shall be filed with and approved by the Bureau of Explosives before any tank car is offered for transportation of nitrogen tetroxide-nitric oxide mixtures.

[29 FR 18753, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16083, Apr. 15, 1976]

§ 173.343 Poison B.

(a) For the purposes of Parts 170–189 of this chapter and except as otherwise provided in this part, class B poisons are those substances, liquid or solid (including pastes and semisolids), other than class A or class C poisons, which are known to be so toxic to man as to afford a hazard to health during transportation; or which, in the absence of adequate data on human toxicity, are presumed to be toxic to man because they fall within any one of the following categories when tested on laboratory animals:

(1) *Oral toxicity.* Those which produce death within 48 hours in half or more than half of a group of 10 or more white laboratory rats weighing 200 to 300 grams at a single dose of 50 milligrams or less per kilogram of body weight, when administered orally.

(2) *Toxicity on inhalation.* Those which produce death within 48 hours in half or more than half of a group of 10 or more white laboratory rats weighing 200 to 300 grams, when inhaled continuously for a period of one hour or less at a concentration of 2 milligrams or less per liter of vapor, mist, or dust, provided such concentration is likely to be encountered by man when the chemical product is used in any reasonable foreseeable manner.

(3) *Toxicity by skin absorption.* Those which produce death within 48 hours in half or more than half of a group of 10 or more rabbits tested at a dosage of 200 milligrams or less per kilogram body weight, when administered by continuous contact with the bare skin for 24 hours or less.

(b) The foregoing categories shall not apply if the physical characteristics or the probable hazards to humans as shown by experience indicate that the substances will not cause serious sickness or death. Neither the display of danger or warning labels pertaining to use nor the toxicity tests set forth above shall prejudice or prohibit the exemption of any substances from the provisions of Parts 170–189 of this chapter.

[29 FR 18753, Dec. 29, 1968. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-3, 33 FR 14922, Oct. 4, 1968; 33 FR 19823, Dec. 27, 1968; Amdt. 173-94, 41 FR 16083, Apr. 15, 1976]

§ 173.344 General packaging requirements for Poison B liquids.

(a) Closing and cushioning. All containers must be tightly and securely closed. Inside containers must be cushioned as prescribed, or in any case when necessary to prevent breakage or leakage.

(b) Packagings containing liquid material may not be completely filled. Outage must be as follows:

(1) For packagings of 110 gallons or less, sufficient outage must be provided so that the packaging will not be liquid full at 130° F. (55° C.).

(2) The proper vacant space (outage) in a tank car or other shipping container depends on the coefficient of expansion of the liquid and the maximum increase of temperature to which it will be subjected in transit. Outage must be calculated to the total capacity of the container.

(3) Liquid poison must not be loaded into domes of tank cars.

(4) In tank cars, outage must be calculated to percentage of the total capacity of the tank, i. e., shell and dome capacity combined. If the dome of the tank car does not provide sufficient outage, then vacant space must be left in the shell to make up the required outage.

(5) The outage for tank cars must not be less than 1 percent.

(6) No cargo tank or compartment thereof used for the transportation of any liquid poison shall be completely filled; sufficient space shall be left vacant in every case to prevent leakage from or distortion of any such cargo tank by expansion of the contents due to rise in temperature in transit, and such free space (outage) shall be sufficient in every case so that such cargo tank shall not become entirely filled with the liquid at 130° F.

[29 FR 18753, Dec. 29, 1968. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16083, Apr. 15, 1976; Amdt. 173-94A, 41 FR 40683, Sept. 20, 1976]

§ 173.345 Limited quantities of Poison B liquids.

(a) Limited quantities of Poison B liquids for which exceptions are permitted as noted by reference to this section in § 172.101 of this subchapter or as provided in § 173.359(c), in tightly closed inside packagings, securely cushioned when necessary to prevent breakage, are excepted from the specification packaging requirements of this part, when packaged as follows:

(1) In glass packagings not over 1 quart capacity each, or in metal containers or polyethylene bottles not over 1 gallon capacity each, packed in strong outside wooden boxes or barrels.

(2) In glass packagings not over 1 pint capacity each, or in metal or polyethylene packagings (other than bags) not over 1 quart capacity each, packed in strong outside fiberboard boxes.

(b) Special exceptions for shipment of certain drugs in the ORM-D class are prescribed in Subpart N of this part.

[Amdt. 173-94, 41 FR 16083, Apr. 15, 1976]

§ 173.346 Poison B liquids not specifically provided for.

(a) Poison B liquid, as defined in § 173.343, other than those for which special requirements are prescribed, must be packaged as follows:

(1) Spec 5, 5A, 5B, or 5C (§§ 178.80, 178.81, 178.82, or 178.83 of this subchapter). Metal barrels or drums, with openings not exceeding 2.3 inches in diameter.

(2) Spec. 17C or 17E (§§ 178.115 or 178.116 of this subchapter). Metal drums (single-trip containers), with openings not exceeding 2.3 inches in diameter.

(3) Specification 37B (§ 178.132 of this subchapter). Metal drums (single-trip containers), welded side seams, openings not over 2.3 inches in diameter, capacity not over 10 gallons. Not authorized for transportation by air.

(4) Spec. 37A or 37B (§ 178.131 or § 178.132 of this subchapter). Metal drums (single-trip containers), with welded side seams, not over 5 gallons; authorized for pastes only.

(5) [Reserved]

(6) [Reserved]

(7) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with glass or earthenware inside containers not over 1 quart capacity each, or with metal inside containers not over 1 gallon capacity each. Packages containing glass or earthenware containers must not weigh over 65 pounds gross.

(8) Spec. 12D (§ 178.207 of this subchapter). Fiberboard boxes with inside container which must be glass or earthenware not over one gallon each; authorized for not more than 75 pounds gross weight; not to contain more than 4 such inside containers if their capacity is greater than 5 pints each. Use of this container will be permitted because of the present emergency and until further order of the Department.

(9) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with glass or earthenware inside containers not over 1 gallon capacity each, except that inside containers up to 3 gallons are authorized when only one is packed in each outside container; or with metal inside containers, not over 10 gallons capacity each.

(10) Specification 103,[1] 103W, 103A,[1] 103ALW, 103AW, 104,[1] 104W, 105A100,[1] 105A100W, 111A60ALW1, 111A60F1, 111A60W1, 111A60W2, 111A100F2, 111A100W4, 115A60W6, or ARA-IV-A[1] (§§ 179.100, 179.101, 179.200, 179.201, 179.220, 179.221 of this subchapter). Tank cars.

(11) Cylinders as prescribed for any compressed gas, except acetylene, are also authorized.

(12) Specifications MC 300, MC 301, MC 302, MC 303, MC 304, MC 305, MC 306, MC 307, MC 310, MC 311, or MC 312 (§§ 178.341, 178.342, 178.343 of this subchapter). Tank motor vehicles.

(13) Specification 1A, 1D, or 1E (§§ 178.1, 178.4, 178.7 of this subchapter). Glass carboys in wooden boxes or plywood drums. Not authorized for transportation by air.

(14) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with not more than one inside glass container of not over 1 gallon capacity, securely cushioned. Completed package, with glass container filled with water, when closed for shipment, must be capable of withstanding six four-foot drops onto solid concrete in the order bottom, four sides, and top without breakage.

(15) Spec. 21C (§ 178.224 of this subchapter). Fiber drums, with inside glass containers not over one gallon capacity each.

(16) Spec. 42B, 42C, or 42D (§§ 178.107, 178.108, or 178.109 of this subchapter). Aluminum drums.

(17) Spec. 42E (§ 178.136 of this chapter). Aluminum drums (single-trip).

(18) Spec. 15P or 22C (§ 178.182 or § 178.198 of this subchapter). Glued plywood or wooden box, or plywood drum as prescribed by § 178.198-2(a) of this subchapter, with inside spec. 2T (§ 178.21 of this subchapter) polyethylene container.

(19) Specification 37P (§ 178.133 of this subchapter). Steel drums, not over 5 gallons capacity, with polyethylene liner (non-reusable container). Drums exceeding 1 gallon capacity must be constructed of at least 24-gauge metal. Hole in steel drum body must be suitably plugged. Authorized only for materials that will not react with polyethylene and result in container failure. Not authorized for transportation by air.

(20) Spec. 6D (§ 178.102 of this subchapter). Cylindrical steel overpack with inside Spec. 2S (§ 178.35 of this subchapter) polyethylene container. Authorized only for materials that will not react with polyethylene and result in container failure.

(21) Spec. 12A (§ 178.210 of this subchapter). Fiberboard boxes with not more than one inside glass bottle not over 1-gallon capacity. Shipper must have established that the completed package meets test requirements prescribed by § 178.210-10 of this subchapter.

(22) Spec. 29 (§ 178.226 of this subchapter). Mailing tubes, with polyethylene bottles not over 2 quarts capacity each.

(23) Spec. 42G (§ 178.111 of this subchapter). Aluminum drums.

(24) Specification 12P (§ 178.211 of this subchapter). Fiberboard boxes with inside specification 2U (§ 178.24 of this subchapter) polyethylene containers not over 5 gallons capacity each. Wire staples are not authorized for assembly or closure of boxes, except when polyethylene container is completely enclosed in inside boxes free of wire staples or other projections that could cause failures. Not authorized for transportation by air.

(25) Specification 16A (§ 178.185 of this subchapter). Wirebound wooden box (see § 178.185-22 of this subchapter) with inside specification 2U (§ 178.24 of this subchapter) polyethylene container. The polyethylene container must be separated from the wooden box by a complete corrugated fiberboard liner and top and bottom pads. Not authorized for transportation by air.

(26) Spec. 12B or 12A (§ 178.205 or 178.210 of this subchapter). Fiberboard boxes with inside polyethylene bottles having a minimum wall thickness of 0.015 inch and provided with screw-cap closures, not over 1-gallon capacity each. Except for polyethylene bottles having

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[1] The use of existing tanks authorized but new construction not authorized.

a minimum wall thickness exceeding 0.015 inch, each bottle shall be enclosed in a box constructed of at least 200-pound test (Mullen or Cady) corrugated fiberboard and not more than four such boxes shall be packed in one outside specification shipping container. When spec. 12A boxes are used, shipper must have established that completed package meets test requirements prescribed by § 178.210-10 of this subchapter.

[29 FR 18753 Dec. 29, 1964, as amended by Order 67, 30 FR 7422, June 5, 1965; Order 73, 32 3457, Mar. 2, 1967. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-80, 39 FR 15038, Apr. 30, 1974; Amdt. 173-81, 39 FR 17320, May 15, 1974; Amdt. 173-94, 41 FR 16083, Apr. 15, 1976]

§ 173.347 Aniline oil.

(a) Aniline oil must be packed in specification containers as follows:

(1) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with metal inside containers not over 10 gallons capacity each, or glass bottles not over 1 pound capacity each. Not more than 25 of these bottles shall be packed in any outside container.

(2) Specification 103,[1] 103W, 103A,[1] 103AW, 104W, 105A100W, 111A60F1, 111A60W1, 111A60W2, 111A100F2, 112A200W, 112A400F, 114A340W (§§ 179.100, 179.101, 179.200, 179.201 of this subchapter). Tank cars.

(3) Specification MC 300, MC 301, MC 302, MC 303, MC 304, MC 305, MC 306, or MC 307 (§§ 178.340, 178.341, 178.342 of this subchapter) tank motor vehicles. Bottom outlets on Specification MC 304 cargo tanks must be equipped with valves conforming with § 178.342-5(a) of this subchapter.

(4) Spec. 5, 5A, or 5B (§§ 178.80, 178.81, or 178.82 of this subchapter). Metal barrels or drums. Net weight in 110 gallon drums must not exceed 915 pounds.

(5) Spec. 17C (§ 178.115 of this subchapter). Metal drums (single-trip).

(6) Spec. 17E (§ 178.116 of this subchapter). Metal drums (single-trip) not over 5 gallons capacity each.

(7) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with metal inside containers not over 1 gallon capacity each; not to contain more than 4 such inside containers if their capacity is greater than 5 pints each.

(8) Spec. 12A (§ 178.210 of this subchapter). Fiberboard boxes with inside glass bottles or metal containers not over 1 gallon capacity each. Not more than four inside containers having capacity of 1 gallon each, shall be packed in one outside container. Shipper must have established that completed package meets test requirements prescribed by § 178.210-10 of this subchapter.

(b) Openings in metal barrels or drums must not exceed 2.3 inches in diameter.

(1) Gaskets not less than one-eighth inch thick must be used at bung and filling holes. Gaskets must be made of hard fiber impregnated with glycerin, metal-covered cork, impregnated asbestos sheets, or metal-covered asbestos.

(c) Filled drums must be so placed that bungs will be subjected to hydrostatic head of oil contained therein for a period of not less than 12 hours.

(1) The exterior of filled drums must be carefully examined for evidence of aniline oil, any traces of which must be removed by washing off with water or, preferably, weak acetic acid. The space between rolling hoops immediately around the bung should be painted to aid in the detection of leaks at this point.

(d) All returnable drums must bear the following notice, "PREVENT DAMAGE TO FOODSTUFFS OR OTHER FREIGHT. DRAIN THIS DRUM THOROUGHLY. TIGHTEN BUNGS, WITH GASKET SECURELY IN PLACE BEFORE RETURNING. USE NEW GASKETS WHEN NECESSARY. ANILINE OIL STAINS ON THE OUTSIDE OF DRUMS SHOULD BE WASHED OFF WITH WATER OR, PREFERABLY WEAK ACETIC ACID", shellacked to head of drum near the consignee's name and address.

[29 FR 18753, Dec. 29, 1964, as amended by Order 73, 32 FR 3457, Mar. 2, 1967. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-24, 34 FR 7121, May 6, 1970; Amdt. 173-80, 39 FR 15038, Apr. 30, 1974; Amdt. 173-94, 41 FR 16083, Apr. 15, 1976]

§ 173.348 Arsenic acid.

(a) Arsenic acid must be packed in specification containers as follows:

(1) As prescribed in § 173.346. When shipped in metal barrels or drums, or tank motor vehicles or tank cars, without lead lining, the arsenic acid must contain not over 0.05 percent nitric acid.

(2) Specification 1A, 1C, or 1D (§§ 178.1, 178.3, 178.4 of this subchapter). Glass carboys in boxes or kegs. Not authorized for transportation by air.

(3) Specification 12A or 12B (§§ 178.210, 178.205 of this subchapter). Fiberboard boxes with Specification 2E (§ 178.24a of this subchapter) inside polyethylene bottles made of high-density (Type III) polyethylene having minimum wall thickness of 0.015 inch with screw-cap closures, not over 1-gallon capacity each. Specification 12A fiberboard boxes may have not more than four inside polyethylene bottles which must be packed to provide a snug fit. Specification 12B fiberboard boxes may not contain more than one inside polyethylene bottle and not more than four such boxes may be overpacked in a strong outside fiberboard box under provisions of § 173.25.

[29 FR 18753, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-11, 34 FR 12592, Aug. 1, 1969; Amdt. 173-94, 41 FR 16083, Apr. 15, 1976]

§ 173.349 Carbolic acid (phenol) liquid.

(a) Carbolic acid (phenol) liquid (liquid tar acid containing over 50 percent benzo-phenol), must be packed in specification containers as follows:

(1) As prescribed in § 173.346.

(2) Specification 1A, 1C, or 1D (§§ 178.1, 178.3, 178.4 of this subchapter). Glass carboys in boxes or kegs. Not authorized for transportation by air.

(3) Spec. 12A (§ 178.210 of this subchapter). Fiberboard boxes with inside glass bottles not over 5-pints capacity each. Not more than 6 inside glass bottles of 5-pints capacity each shall be packed in one outside container. Shipper must have established that the completed package meets test requirements prescribed by § 178.210-10 of this subchapter.

[29 FR 18753, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16083, Apr. 15, 1976]

§ 173.350 Chemical ammunition.

(a) Chemical ammunition consisting of projectiles, shells, bombs, grenades and other containers filled with Poison B materials, without ignition elements, bursting charges, detonating fuzes, or other explosive components, must be packed for shipment in strong outside wooden or metal boxes. Boxes must be marked with proper shipping name and labeled as prescribed by this Part for gases, liquids, or chemicals contained therein.

(b) Chemical ammunition, when shipped as such, must not be equipped or packed with explosive or ignition elements. (See §§ 173.53 (r) and 173.59 for explosive chemical ammunition.)

[29 FR 18753, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16083, Apr. 15, 1976]

§ 173.351 Hydrocyanic acid solutions.

(a) Hydrocyanic acid solutions must be packed in glass bottles not over 1 pound capacity each for solutions of not over 5 percent hydrocyanic acid and not over 5 pints capacity each for solutions of not over 2 percent strength and must be packaged as follows:

(1) Specification 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, 178.190 of this subchapter). Wooden boxes. Completed package, with glass packaging filled with water, must be capable of withstanding six four-foot drops onto solid concrete in the following order; bottom, four sides, and top, without breakage.

[Amdt. 173-94, 41 FR 16083, Apr. 15, 1976]

§ 173.352 Sodium and potassium cyanide solutions.

(a) Sodium and potassium cyanide solutions must be packed in specification containers as follows;

(1) Spec. 5, 5A, or 5B (§§ 178.80, 178.81, of 178.82 of this subchapter). Metal barrels or drums without galvanizing inside, with openings not exceeding 2.3 inches in diameter.

(2) Specification 17E or 37B (§ 178.116, 178.132 of this subchapter). Metal drums (single-trip), with welded side seams, with openings not exceeding 2.3 inches in diameter. Specification 37B not authorized for transportation by air.

(3) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with inside glass or earthenware

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[1] The use of existing tanks authorized but new construction not authorized.

containers not over 1 gallon capacity each, or inside metal containers not over 10 gallons capacity each, and without galvanizing.

(4) Specification 103,[1] 103W, 103A,[1] 103AW, 111A60F1, 111A60W1, 111A60W2, 111A100F2 (§§ 179.200, 179.201 of this subchapter). Tank cars.

(5) Specifications MC 300, MC 301, MC 302, MC 303, MC 305, or MC 306 (§ 178.341 of this chapter). Tank motor vehicles.

[29 FR 18753, Dec. 29, 1964, as amended by Order 73, 32 FR 3457, Mar. 2, 1967. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-80, 39 FR 15038, Apr. 30, 1974; Amdt. 173-94, 41 FR 16084, Apr. 15, 1976]

§ 173.353 Methyl bromide and methyl bromide mixtures.

(a) Methyl bromide, liquid (bromomethane); methyl bromide and ethylene dibromide mixture liquid; or methyl bromide and more than 2% chloropicrin mixture, liquid; must be packed in specification containers as follows:

(1) Specification 5A (§ 178.81 of this subchapter). Metal drums not exceeding 30 gallons capacity or metal drums of bilge type not exceeding 33 gallons capacity and with openings not exceeding 2.3 inches in diameter. Not authorized for mixtures containing any compressed gas.

(2) Specification 15A, 15B, 15C, 16A, 19A, or 12B (§§ 178.168, 178.169, 178.170, 178.185, 178.190, 178.205 of this subchapter). Wooden, wire-bound wooden, or fiberboard boxes, with inside metal cans containing not over 1 pound each; outage is required so the can will not become liquid full at 130° F. (55° C.). Cans must be of tinplate or lined with suitable material and must have concave or pressure ends. Cans must be able to withstand an interior pressure of 130 pounds per square inch gauge without evidence of leakage or permanent distortion. Pressure of contents must not exceed 130 psig at 130° F. (55° C.)

(3) Specification 3A225, 3AA225, 3B225, 3E1800, 4A225, 4B225, 4BA225, or 4BW225 (§§ 178.36, 178.37, 178.38, 178.42, 178.49, 178.50, 178.51, 178.61 of this subchapter). Metal cylinders. Valves and other closing devices must be protected to prevent damage in transit, by screw-on metal caps or by packing the cylinders in strong boxes or crates. Cylinders having a wall thickness of less than 0.08 inch must be packed in boxes or crates (see § 173.25).

(4) Spec. 4D300 or 4DA500 (§ 178.53 or § 178.58 of this subchapter). Metal spheres, be packed in strong boxes or crates (see § 173.25).

(5) Specification 105A100,[1] 105A100W, or 111A100-W-4 (§§ 179.100, 179.101, 179.200, 179.201) tank cars. Outage must be sufficient to prevent tank cars from becoming liquid full at 105° F.

(6) Specification 106A500X (§§ 179.300, 179.301 of this subchapter) tanks. Outage must be sufficient to prevent tanks from becoming liquid full at 130° F. (55° C.). (See §§ 174.200 and 177.834 (m) of this subchapter for special requirements for rail and highway shipments.)

(b) [Reserved]

(c) Outage must be sufficient to prevent cylinders or spheres from becoming entirely filled with liquid at 130° F. (55° C.) and when the vacant space (outage) is charged with a nonflammable nonliquefied compressed gas, the pressure in the cylinder or sphere at 130° F. (55° C.) must not exceed 5/4 the marked service pressure of the cylinder or sphere.

(d) Spec. 17C (§ 178.115 of this subchapter). Metal drums (single-trip) not over 5¼ gallons marked capacity each and having no opening exceeding 2.3 inches in diameter. Authorized only for mixtures of methyl bromide and ethylene dibromide, liquid containing not over 40 percent by weight of methyl bromide.

(e) Specifications MC 330 or MC 331 (§ 178.337 of this subchapter). Tank motor vehicles having a design pressure not less than 250 pounds per square inch equipped with an approved spring-relief safety valve. Outage must be sufficient to prevent tank from becoming entirely filled with liquid at 130° F. Authorized for methyl bromide-ethylene dibromide mixture only.

[29 FR 18753, Dec. 29, 1964, as amended by Order 67, 30 FR 7422, June 5, 1965; Order 73, 32 FR 3457, Mar. 2, 1967. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-11, 34 FR 12592, Aug. 1, 1969; Amdt. 173-18, 35 FR 1109, Jan. 28, 1970; Amdt. 173-94, 41 FR 16084, Apr. 15, 1976; Amdt. 173-94A, 41 FR 40683, Sept. 20, 1976]

§ 173.353a Methyl bromide, liquid, and nonflammable, nonliquefied compressed gas mixtures.

(a) Methyl bromide, liquid and nonflammable, nonliquefied compressed gas mixtures must be packed in specification containers as noted in § 173.353(a)(2), (3), (4), (5), (6), and (c).

(b) Liquid may contain 2 percent or less by weight chloropicrin.

[Amdt. 173-94A, 41 FR 40683, Sept. 20, 1976]

§ 173.354 Motor fuel antiknock compound or tetraethyl lead.

(a) Motor fuel antiknock compound (a mixture of one or more organic lead compounds such as tetraethyl lead, triethylmethyl lead, diethyldimethyl lead, ethyltrimethyl lead, and tetramethyl lead, with one or more halogen compounds such as ethylene dibromide and ethylene dichloride, hydrocarbon solvents or other equally efficient stabilizers) or tetraethyl lead must be packed in specification containers as follows:

(1) Spec. 15A (§ 178.168 of this subchapter). Wooden boxes with inside glass or earthenware containers of not over 1 pint capacity each, or metal cans, inclosed in hermetically sealed (soldered) metal cans, spec. 2A (§ 178.20 of this subchapter).

(2) Spec. 5 or 5A (§§ 178.80 or 178.81 of this subchapter). Metal barrels or drums, with openings not exceeding 2.3 inches in diameter.

(3) Cylinders as prescribed for any compressed gas, except acetylene.

(4) Spec. 105A300-W (§§ 179.100 and 179.101 of this subchapter). Tank car. Stenciled on both sides of the tank "FOR MOTOR FUEL ANTIKNOCK COMPOUND ONLY." Tank car not authorized for tetraethyl lead. Openings in tank heads to facilitate application of nickel lining are authorized on tank cars constructed before January 1, 1975. These openings must be closed in an approved (§ 179.3 of this subchapter) manner.

(5) Specification MC 330 or MC 331 (§ 178.337 of this subchapter) (see Note 1). Tank motor vehicles. Authorized for motor fuel antiknock compound only.

NOTE 1: Spec. MC 300, MC 301,[1] MC 302 or MC 303 (§ 178.321, 178.323, or 178.324 of this chapter) tank motor vehicles in motor fuel antiknock compound service prior to October 1, 1955 may be continued in service.

(6) Spec. 51 (§ 178.245 of this subchapter). Portable tanks having a minimum design pressure of 100 pounds per square inch. Authorized for motor fuel antiknock compound only.

(7) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes constructed on at least 375-pound test (Mullen or Cady) solid fiberboard with inside metal cans enclosed in hermetically sealed (soldered) metal cans, not over 5 pounds capacity each. Each inside metal container must be enclosed in a taped, double-faced corrugated liner constructed of at least 200-pound test (Mullen or Cady) fiberboard and fitted with die-cut end caps constructed of at least 200-pound test (Mullen or Cady) double-walled corrugated fiberboard. Authorized gross weight not over 90 pounds.

(b) Outage must be sufficient to prevent any container from becoming entirely filled with liquid at 130° F.

(c) Steel tanks conforming to ASME specifications (including marking) which contain solid or semisolid residual motor fuel antiknock compound (including rust, scale, or other contaminants) may be shipped by rail freight or highway. All openings must be closed with gasketed blank flanges or vapor tight threaded closures. Each tank must be secured and braced to prevent movement under conditions normally incident to transportation.

[29 FR 18753, Dec. 29, 1964, as amended by Order 73, 32 FR 3458, Mar. 2, 1967. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-8, 34 FR 9870, June 26, 1969; Amdt. 173-94, 41 FR 16084, Apr. 15, 1976]

§ 173.355 Phenyldichlorarsine.

(a) Phenyldichlorarsine must be packed in specification containers as follows:

(1) Spec. 5A (§ 178.81 of this subchapter) Metal barrels or drums, made of not less than 12 gauge steel, and limited to 30 gallons capacity, with openings not exceeding 2.3 inches in diameter. Each metal barrel or drum must be tested before each filling to 20 pounds hydrostatic test.

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[1] The use of existing tanks authorized but new construction not authorized.

[1] Use of existing cargo tanks authorized, but new construction not authorized.

[29 FR 18753, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–94, 41 FR 16084, Apr. 15, 1976]

§ 173.356 Thiophosgene.

(a) Thiophosgene must be packed in specification containers as follows:

(1) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes, with inside containers which must be tightly closed glass bottles not exceeding 1 pint capacity each, securely packed in absorbent in combustible cushioning material. Cushioning material must be capable of absorbing entire contents of the container.

(2) Spec. 15A or 15B (§§ 178.168 or 178.169 of this subchapter). Wooden boxes, with inside containers which must be tightly closed glass bottles not exceeding 1 quart capacity each, securely packed in absorbent incombustible cushioning material. Cushioning material must be capable of absorbing entire contents of container.

[29 FR 18753, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–94, 41 FR 16084, Apr. 15, 1976]

§ 173.357 Chloropicrin and chloropicrin mixtures containing no compressed gas or Poison A liquid.

(a) *Chlorpicrin.* Chlorpicrin, when offered for transportation by carriers by rail freight, highway, or water, must be packed in specification containers as follows:

(1) Spec. 15A, 15B, 15C, or 16A (§§ 178.168, 178.169, 178.170, or 178.185 of this subchapter). Wooden boxes with inside glass bottles or tubes in hermetically sealed metal cans in corrugated fiberboard cartons, spec. 2C (§ 178.22 of this subchapter). Bottles must contain not over 1 pound of liquid each, must be filled to not over 95 percent capacity, must be tightly and securely closed, and must be cushioned in cans with at least ½ inch of absorbent material. Cans must be made of metal at least 32 gauge United States standard. Total amount of liquid in outside box must not exceed 24 pounds.

(2) Spec. 12B (§ 178.205 of this subchapter). One-piece corrugated fiberboard boxes at least 200-pound test with inside glass bottles or tubes in hermetically sealed metal cans in individual unsealed one-piece corrugated fiberboard boxes, spec. 12B at least 200-pound test. Bottles must contain not over 1 pound of liquid each, must be filled to not over 95 percent capacity, must be tightly and securely closed, and must be cushioned in cans with at least ½ inch of absorbent material. Cans must be made of metal at least 32 gauge United States standard. Total amount of liquid in outside box must not exceed 12 pounds.

(3) Spec. 12B (§ 178.205 of this subchapter). One-piece corrugated fiberboard boxes at least 200-pound test with not more than one inside glass bottle or tube in a hermetically sealed metal can. Bottles must contain not over 1 pound of liquid, must be filled to not over 95 percent capacity, must be tightly and securely closed, and must be cushioned in cans with at least ½ inch of absorbent material. Cans must be made of metal at least 32 gauge United States standard.

(b) *Chloropicrin and mixtures of chloropicrin containing no compressed gas or Poison A liquid.* Chloropicrin and mixtures of chloropicrin containing no compressed gas or Poison A liquid, in addition to containers prescribed in paragraph (a) of this section, when offered for transportation by carriers by rail freight, highway, or water, may be shipped in specification containers as follows:

(1) Specification 3A, 3AA, 3B, 3C, 3D, 3E, 4A, 4B, 4BA, 4BW, or 4C (§§ 178.36, 178.37, 178.38, 178.40, 178.41 178.42, 178.49, 178.50, 178.51, 178.61, 178.52 of this subchapter). Metal cylinder. Valves or other closing devices must be protected by screw-on metal caps, or by packaging the cylinders in boxes or crates, to protect the valves from damage during transportation. A cylinder closed by means of a solid plug may have the closure protected by a metal collar. Cylinders having a wall thickness of less than 0.08 inch must be packaged in boxes or crates. Each cylinder having a water capacity over 275 pounds must have a minimum design pressure of 225 p.s.i.g., unless the specification requires a higher minimum design pressure.

(2) Spec. 5A (§ 178.81 of this subchapter). Metal drums of not exceeding 33 gallons capacity with welded seams.

(3) Spec. 17C or 17E (§§ 178.115 and 178.116 of this subchapter). Metal drums (single-trip) with openings not exceeding 2.3 inches in diameter. Capacity not to exceed 30 gallons. Authorized only for chlorpicrin mixtures containing not to exceed 15 percent chlorpicrin by weight or 15 percent by volume chlorpicrin, 85 percent by volume dichloropropene technical, and only authorized for such mixtures not classed as flammable under these regulations.

(4) Specification 106A500X (§§ 179.300, 179.301 of this subchapter) tanks. Valves must be protected by metal caps. Tanks must not be equipped with safety devices of any type. Outage must be sufficient to prevent tanks from becoming liquid full at 130° F. (55° C.). (See § 177.834(m) of this subchapter for special requirements for highway shipments.)

(5) Spec. 105A300–W, 105A400–W, or 105A500–W (§§ 179.100 and 179.101 of this subchapter). Tank cars.

(c) Chloropicrin and mixtures of chloropicrin containing no compressed gas or Poison A liquid, must be packaged as follows:

(1) Spec. 15A, 15B, 15C, or 16A (§§ 178.168, 178.169, 178.170, or 178.185 of this subchapter). Wooden boxes with inside glass bottles or tubes in hermetically sealed metal cans in corrugated fiberboard cartons, spec. 2C (§ 178.22 of this subchapter). Bottles must contain not over 1 pound of liquid each, must be filled to not over 95 percent capacity, must be tightly and securely closed, and must be cushioned in cans with at least ½ inch of absorbent material. Cans must be made of metal at least 32 gauge United States standard. Total amount of liquid in outside box must not exceed 24 pounds.

(2) Spec. 15A (§ 178.168 of this subchapter). Wooden boxes, metal strapped, with chlorpicrin absorbed in an efficient absorbing material packed in hermetically sealed metal cans not exceeding 1 quart capacity each.

(3) Spec. 12B (§ 178.205 of this subchapter). One-piece corrugated fiberboard boxes at least 200-pound test with inside glass bottles or tubes in hermetically sealed metal cans in individual unsealed one-piece corrugated fiberboard boxes. Spec. 12B at least 200-pound test. Bottles must contain not over 1 pound of liquid each, must be filled to not over 95 percent capacity, must be tightly and securely closed, and must be cushioned in cans with at least ½ inch of absorbent material. Cans must be made of metal at least 32 gauge United States standard. Total amount of liquid in outside box must not exceed 12 pounds.

(4) Spec. 12B (§ 178.205 of this subchapter). One-piece corrugated fiberboard boxes at least 200-pound test with not more than one inside glass bottle or tube in a hermetically sealed metal can. Bottles must contain not over 1 pound of liquid, must be filled to not over 95 percent capacity, must be tightly and securely closed, and must be cushioned in cans with at least ½ inch of absorbent material. Cans must be made of metal at least 32 gauge United States standard.

[29 FR 18753, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173–34, 35 FR 13835, Sept. 1, 1970; Amdt. 173–57, 36 FR 21289, Nov. 5, 1971; Amdt. 173–94, 41 FR 16084, Apr. 15, 1976]

§ 173.358 Hexaethyl tetraphosphate, methyl parathion, organic phosphate compound, organic phosphorous compound, parathion, tetraethyl dithio pyrophosphate, and tetraethyl pyrophosphate, liquid.

(a) Hexaethyl tetraphosphate, methyl parathion, organic phosphate compound, organic phosphorous compound, parathion, tetraethyl dithio pyrophosphate, and tetraethyl pyrophosphate, liquid must be packed in specification containers as follows:

(1) Spec. 5, 5A, or 5B (§§ 178.80, 178.81, 178.82 of this subchapter). Metal barrels or drums, with openings not exceeding 2.3 inches in diameter.

(2) Spec. 17C or 17E (§§ 178.115, 178.116 of this subchapter). Metal drums (single-trip), with openings not exceeding 2.3 inches in diameter. Spec. 17E drums authorized for not over 5 gallons capacity each.

(3) Spec. 15A or 15B (§§ 178.168, 178.169 of this subchapter). Wooden boxes, with metal inside containers of not over 5 gallons capacity each.

(4) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes, with inside glass bottles not over 1 gallon capacity each, securely cushioned in liquid-tight metal cans.

(5) Spec. 21C (§ 178.224 of this subchapter). Fiber drums, with inside glass containers not over 1 gallon capacity each.

(6) Spec. 37A (§ 178.131 of this subchapter). Metal drums (single-trip),

with inside glass containers not over 1 gallon capacity each.

(7) Cylinders as prescribed for any compressed gas, except acetylene, are also authorized.

(8) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with not more than one inside glass container of not over 1 gallon capacity, securely cushioned. Completed package, with glass container filled with water, when closed for shipment, must be capable of withstanding six four-foot drops onto solid concrete in the order bottom, four sides and top without breakage.

(9) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with not more than one inside container of polyethylene, or other nonfragile plastic material, and closed by a screw cap of similar material, not over 16 ounces, surrounded by absorbent cushioning and packed in a one gallon securely closed metal can which shall be surrounded with absorbent cushioning material within the outside fiberboard box.

(10) Spec. 42B (§ 178.107 of this subchapter). Aluminum drums.

(11) Specification 105A300W (§§ 179.100, 179.101 of this subchapter). Tank cars. Authorized for parathion and methyl parathion only. The nominal water capacity of a tank car must not exceed 12,000 gallons.

(12) Specification 6D (§ 178.102 of this subchapter). Cylindrical steel overpack with an inside specification 2S (§ 178.35 of this subchapter) polyethylene container. Each full removable head overpack over 5 gallons capacity must be closed by means of a 12-gage steel bolted ring closure with drop forged lugs, one of which is appropriately threaded. For an overpack not over 30 gallons capacity, the threaded lug must have at least a ⅜-inch bolt and locking nut, and for an overpack over 30 gallons capacity the bolt and locking nut must be at least ⅝-inch. Authorized only for materials that will not react with polyethylene and result in container failure.

[29 FR 18743, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173-28, 35 FR 11796, July 23, 1970; Amdt. 173-64, 37 FR 14588, July 21, 1972; Amdt. 173-94, 41 FR 16084, Apr. 15, 1976; Amdt. 173-94A, 41 FR 40683, Sept. 20, 1976]

§ 173.359 Hexaethyl tetraphosphate mixtures; methyl parathion mixtures; organic phosphorus compound mixtures; organic phosphate compound mixtures; parathion mixtures; tetraethyl dithio pyrophosphate mixtures; and tetraethyl pyrophosphate mixtures, liquid (includes solutions, emulsions, or emulsifiable liquids).

(a) Hexaethyl tetraphosphate mixtures, methyl parathion mixtures, organic phosphate compound mixtures, parathion mixtures, tetraethyl dithio pyrophosphate mixtures, and tetraethyl pyrophosphate mixtures (solutions, emulsions, or emulsifiable liquids) containing not more than 50 percent hexaethyl tetraphosphate, methyl parathion, organic phosphate compound mixtures, n.o.s., parathion, tetraethyl dithio pyrophosphate, or tetraethyl pyrophosphate by weight, must be packed in specification containers as follows:

(1) Spec. 5, 5A, or 5B (§§ 178.80, 178.81, or 178.82 of this subchapter). Metal barrels or drums, with openings not exceeding 2.3 inches in diameter.

(2) Spec. 17C (§ 178.115 of this subchapter). Metal drums (single-trip), with openings not exceeding 2.3 inches in diameter.

(3) Spec. 17E or 37B (§ 178.116 or § 178.132 of this subchapter). Metal drums (single-trip) with openings not exceeding 2.3 inches in diameter. Capacity not to exceed 10 gallons for spec. 17E drums. Spec. 37B drums must be constructed of at least 24-gauge metal with welded side seams, of capacity not over 5½ gallons, and must be tested as prescribed by § 178.116-12 and 178.116-13 of this subchapter. Authorized only for mixtures not classed as flammable under these regulations.

(4) Spec. 15A, 15B, 15C, or 15E (§§ 178.168, 178.169, 178.170, or 178.172 of this subchapter). Wooden boxes, with metal inside containers not over 10 gallons capacity each.

(5) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes, with inside glass bottles not over 1 gallon capacity each, securely cushioned in liquid-tight metal cans.

(6) Spec. 21C (§ 178.224 of this subchapter). Fiber drums, with inside glass containers not over one gallon capacity each.

(7) Spec. 37A (§ 178.131 of this subchapter). Metal drums (single-trip), with inside glass containers not over 1 gallon capacity each.

(8) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes as authorized by § 178.205-19(a) of this subchapter.

(9) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with not more than one inside glass container of not over 1 gallon capacity, securely cushioned. Completed package, with glass container filled with water, when closed for shipment, must be capable of withstanding six four-foot drops onto solid concrete in the order bottom, four sides, and top without breakage.

(10) Spec. 42B (§ 178.107 of this subchapter). Aluminum drums.

(11) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with inside high-density polyethylene bottles not over 1-gallon capacity each. Polyethylene bottles must have a minimum wall thickness of 0.015 inch and be equipped with screw-cap closures additionally taped for securement. Each polyethylene bottle shall be packed in an inside fiberboard box. Not more than four inside fiberboard boxes with inside polyethylene bottles shall be packed in one outside shipping container. Polyethylene used in construction of inside polyethylene bottles must be of a type compatible with the lading and shall prevent permeation of contents to a degree that would cause a hazardous condition in transportation and handling.

(12) Spec. 12A (§ 178.210 of this subchapter). Fiberboard boxes with inside securely closed metal containers not over 1-gallon capacity each. Fiberboard boxes shall be constructed of not less than 500-pound test (Mullen or Cady) double-wall corrugated fiberboard. Not more than six 1-gallon metal containers shall be packed in one outside container. Authorized gross weight not over 65 pounds.

(13) Spec. 105A300-W (§§ 179.100 and 179.101 of this subchapter). Tank cars. Authorized for organic phosphate compound mixtures, n.o.s., only.

(14) Specification 6D (§ 178.102 of this subchapter). Cylindrical steel overpack with an inside specification 2S (§ 178.35 of this subchapter) polyethylene container. Each full removable head overpack over 5 gallons capacity must be closed by means of a 12-gage steel bolted ring closure with drop forged lugs, one of which is appropriately threaded. For an overpack not over 30 gallons capacity, the threaded lug must have at least a ⅜-inch bolt and locking nut, and for an overpack over 30 gallons capacity the bolt and locking nut must be at least ⅝-inch. Authorized only for materials that will not react with polyethylene and result in container failure.

(b) Hexaethyl tetraphosphate mixtures, methyl parathion mixtures, organic phosphate compound mixtures, parathion mixtures, tetraethyl dithio pyrophosphate mixtures, and tetraethyl pyrophosphate mixtures (solutions, emulsions, or emulsifiable liquids) containing more than 50 percent hexaethyl tetraphosphate, methyl parathion, organic phosphate compound mixtures, parathion, tetraethyl dithio pyrophosphate, or tetraethyl pyrophosphate by weight, must be packed in specification containers as follows:

(1) Spec. 5, 5A, or 5B (§§ 178.80, 178.81, or 178.82 of this subchapter). Metal barrels or drums, with openings not exceeding 2.3 inches in diameter.

(2) Spec. 17C, 17E, or 37B (§ 178.115, § 178.116, or § 178.132 of this subchapter). Metal drums (single-trip) with openings not exceeding 2.7 inches in diameter. Spec. 17E drums authorized for not over 5 gallons capacity each. Spec. 37B drums must be constructed of at least 24-gauge metal with welded side seam, of not over 5½ gallons capacity, and must be tested as prescribed by §§ 178.116-12 and 178.116-13 of this subchapter.

(3) Spec. 15A or 15B (§§ 178.168 or 178.169 of this subchapter). Wooden boxes, with metal inside containers not over 5 gallons capacity each.

(4) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes, with inside glass bottles not over 1 gallon capacity each, securely cushioned in liquid-tight metal cans.

(5) Spec. 21C (§ 178.224 of this subchapter). Fiber drums, with inside glass containers not over one gallon capacity each.

(6) Spec. 37A (§ 178.131 of this subchapter). Metal drums (single-trip), with inside glass containers not over 1 gallon capacity each.

(7) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with not more than one inside glass container of not over 1 gallon capacity securely cushioned. Completed package, with glass container filled with water, when closed for shipment, must be capable of withstanding six four-foot drops onto solid concrete in the order bottom, four sides, and top without breakage.

(8) Spec. 42B (§ 178.107 of this subchapter). Aluminum drums.

(9) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with not more than six inside high-density polyethylene bottles having screw-cap closures, not over 1-quart capacity each. Fiberboard boxes must have full-height corrugated fiberboard liner, top and bottom pads, and bottles must be separated by corrugated fiberboard partitions. Plastic used in construction of bottles must be of a type compatible with the lading.

(10) Specification 6D (§ 178.102 of this subchapter). Cylindrical steel overpack with an inside specification 2S (§ 178.35 of this subchapter) polyethylene container. Each full removable head overpack over 5 gallons capacity must be closed by means of a 12-gage steel bolted ring closure with drop forged lugs, one of which is appropriately threaded. For an overpack not over 30 gallons capacity, the threaded lug must have at least a ⅜-inch bolt and locking nut, and for an overpack over 30 gallons capacity the bolt and locking nut must be at least ⅝-inch. Authorized only for materials that will not react with polyethylene and result in container failure.

(c) Hexaethyl tetraphosphate mixtures, methyl parathion mixtures, organic phosphorus compound mixtures, n.o.s., organic phosphate compound mixtures, n.o.s., parathion mixtures, tetraethyl dithio pyrophosphate mixtures, and tetraethyl pyrophosphate mixtures (solutions, emulsions, or emulsifiable liquids) containing not more than 25 percent hexaethyl tetraphosphate, methyl parathion, organic phosphate compound mixtures, n.o.s., parathion, tetraethyl dithio pyrophosphate, or tetraethyl pyrophosphate by weight, in inside metal containers not over 8 fluid ounces capacity each, packed in strong outside containers together with sufficient absorbent material to completely absorb the liquid in the event of leakage, are excepted from specification packaging requirements of this Part.

[29 FR 18753, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-64, 37 FR 14588, July 21, 1972; Amdt. 173-94, 41 FR 16084, Apr. 15, 1976; Amdt. 173-94A, 41 FR 40684, Sept. 20, 1976]

§ 173.360 Perchloro-methyl-mercaptan.

(a) Perchloro-methyl-mercaptan in any quantity must not be packed with any other article. When offered for transportation by carriers by rail freight, highway, or water must be packed in specification containers as follows:

(1) [Reserved]

(2) Spec. 15A, 15B, 15C, or 16A (§§ 178.168, 178.169, 178.170, or 178.185 of this subchapter). Wooden boxes, with inside containers which must be glass bottles not over 2 quarts capacity each, individually enclosed in tightly closed metal cans and cushioned therein with incombustible material. Net weight not over 100 pounds in one outside container.

(3) Spec. 5H (§ 178.87 of this subchapter). Lead-lined metal barrels or drums not over 33 gallons each.

(4) Spec. 5K or 5M (§ 178.88 or § 178.90 of this subchapter). Nickel or monel barrels or drums.

[29 FR 18753, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173-81, 39 FR 17320, May 15, 1974; Amdt. 173-94, 41 FR 16084, Apr. 15, 1976]

§ 173.361 Aldrin mixtures, liquid, with more than 60 percent aldrin.

(a) Aldrin mixtures, liquid, with more than 60 percent aldrin must be shipped in specification containers as follows:

(1) As prescribed in § 173.346.

(2) Spec. 6A, 6B, or 6C (§§ 178.97, 178.98, or § 178.99 of this subchapter). Metal barrels or drums. Authorized only for viscous mixtures or those which may become partially solid.

(3) Spec. 17C or 17H (§ 178.115 or § 178.118 of this subchapter). Metal drums (single-trip). Drums with opening exceeding 2.3 inches in diameter authorized only for viscous mixtures or those which may become partially solid.

[29 FR 18753, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16084, Apr. 15, 1976]

§ 173.362 4-Chloro-o-toluidine hydrochloride.

(a) 4-Chloro-o-toluidine hydrochloride must be shipped in specification containers as follows:

(1) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with glass polyethylene, or equally efficient inside containers not over 1 quart capacity each, securely packed in a tightly closed metal container.

(2) Spec. 15A or 15B (§§ 178.168 or 178.169 of this subchapter). Wooden boxes with glass, polyethylene, or equally efficient inside containers not over 1 quart capacity each. Glass containers must be securely packed in tightly closed metal containers.

(3) Spec. 17C or 17H (§§ 178.115 or 178.118 of this subchapter). Metal drums (single-trip).

(4) Spec. 6A, 6B, or 6C (§§ 178.97, 178.98, or 178.99 of this subchapter). Metal barrels or drums.

[29 FR 18753, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16084, Apr. 15, 1976]

§ 173.362a Dinitrophenol solutions.

(a) Dinitrophenol solutions must be packed in specification containers as follows:

(1) In containers prescribed in § 173.346.

(2) Spec. 12B (§ 178.205 of this subchapter). Fiberboard box with glass, earthenware, or metal inside containers not over 1 gallon capacity each; not to contain more than 4 inside glass or earthenware containers if their capacity is greater than 5 pints each.

[29 FR 18753, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16084, Apr. 15, 1976]

§ 173.363 General packaging requirements for Poison B solids.

(a) Closing and cushioning. All containers must be tightly and securely closed. Inside containers must be cushioned as prescribed, or in any case when necessary to prevent breakage or leakage.

(b) Testing inside containers. All inside containers, except those made of glass, must be able to pass a test by dropping, after filling, from a height of 4 feet to solid concrete without rupture or sifting of contents, except that for bags with contents weighing 25 pounds, a drop test of 2 feet is required.

[29 FR 18753, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16084, Apr. 15, 1976]

§ 173.364 Limited quantities of Poison B solids.

(a) Unless otherwise excluded by paragraph (3) of this section, limited quantities of Poison B solids for which exceptions are permitted as noted by reference to this section in § 172.101 of this subchapter are excepted from specification packaging requirements of this part if in tightly closed, inside packaging securely cushioned when necessary to prevent breakage as follows:

(1) In inside glass, earthenware, or composition bottles or jars, or metal containers, or lock-corner sliding-lid wooden boxes, of not over 5 pounds capacity each; or chipboard, pasteboard, or fiber cartons, cans, boxes, or tightly closed strong plastic bags or bottles compatible with product of not over 1 pound capacity each, packed in outside wooden or fiber board boxes, or wooden barrels or kegs. Net weight of contents of outside container not over 100 pounds.

(2) In inside chipboard, pasteboard, or fiber cartons, cans, or boxes, of not over 5 pounds capacity each, packed in outside fiberboard or wooden boxes. Not more than 6 of these cartons may be packed in any outside container.

(3) The following materials are excluded from this exception: Cyanides (other than as specified in 173.370 (b) and (d)), hexaethyl tetraphosphate mixtures, methyl parathion mixtures, organic phosphorus compound mixtures, and organic phosphate mixtures.

(b) Special exceptions for shipment of certain drugs in the ORM-D class are prescribed in Subpart N of this part.

[Amdt. 173-94, 41 FR 16084, Apr. 15, 1976 as amended by Amdt. 173-94A, 41 FR 40684, Sept. 20, 1976]

§ 173.365 Poison B solids not specifically provided for.

(a) Poison B solids, as defined in § 173.343, other than those for which special requirements are prescribed, must be packaged as follows:

(1) Spec. 5, 5A, 5B, 6A, 6B, or 6C (§§ 178.80, 178.81, 178.82, 178.97, 178.98,

or 178.99 of this subchapter). Metal barrels or drums.

(2) Spec. 17E, 17H, 37A, or 37B (§§ 178.116, 178.118, 178.131, or § 178.132 of this subchapter). Metal drums (single-trip). Gross weight not over 375 pounds, except for material fused solid in the drum a gross weight of 880 pounds and not over 550 pounds gross weight for waste material containing arsenic trioxide is authorized in drums constructed of at least 18 gauge steel regardless of gross weight marking embossed in the container.

(3) [Reserved]

(4) [Reserved]

(5) [Reserved]

(6) Spec. 12B or 12C (§§ 178.205 or 178.206 of this subchapter). Fiberboard boxes, with inside containers which must be metal cans not over 25 pounds capacity each; glass bottles not over 1 gallon capacity each; fiber cans or boxes, spec. 2G (§ 178.26 of this subchapter); sliding-top wooden boxes, lined to prevent sifting, not over 25 pounds capacity each; or paper bags, spec. 2D (§ 178.23 of this subchapter). Packages containing glass or earthenware containers must not weigh over 65 pounds gross nor contain more than 4 inside containers of over 5 pints capacity each. Outside containers must be not over 5,000 cubic inches capacity nor contain over 50 pounds net weight each, except as provided in § 178.205-23 of this subchapter.

TEST: The completed package prepared as for shipping must be capable of standing a drop of 4 feet to solid concrete without breakage of the container or any sifting of contents.

(7) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with securely closed inside fiberboard or chipboard boxes not over 6 pounds net weight each. Interior containers must be at least .028 inch thick for those not over 2½ pounds net weight each and at least .034 inch thick for others. Outside packages must contain not over 36 pounds net weight of material each.

TEST: The individual interior containers as well as the completed package prepared as for shipping must be capable of standing a drop of 4 feet to solid concrete without breakage of the container or any sifting of contents.

(8) Spec. 15A (§ 178.168 of this subchapter). Wooden boxes, with inside containers which must be securely closed paper bags, placed within a waterproof duplex bag, spec. 2J (§ 178.28 of this subchapter). Net weight of material in one outside box, not over 100 pounds.

(9) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes, with inside containers which must be metal cans not over 25 pounds capacity each; glass or earthenware containers not over 1 gallon capacity each; except that inside containers of not over 5 gallons each and containing not over 25 pounds net weight are authorized when only one inside container is packed in each outside container. Fiber cans or boxes, spec. 2G (§ 178.26 of this subchapter), or sliding-top wooden boxes, lined to prevent sifting, not over 25 pounds capacity each. Net weight of material in outside container, not over 100 pounds each.

(10) Spec. 18B (§ 178.193 of this subchapter). Wooden kits lined as prescribed by spec. 2K (§ 178.29 of this subchapter). Net weight not over 30 pounds each.

(11) [Reserved]

(12) Spec. 22A (§ 178.196 of this subchapter). Plywood drums. Net weight not over 115 pounds each.

(13) Specification 103,[1] 103W, 103A,[1] 103AW, 111A60F1, 111A60W1, 111A60W2, or 111A100F2 (§§ 179.200, 179.201 of this subchapter). Tank cars.

(14) Spec. 21C (§ 178.224 of this subchapter). Fiber drums. Authorized net weight not over 225 pounds.

(15) Specification 12B (§ 178.205 of this subchapter). Fiberboard boxes constructed of at least 275-pound test double-faced fiberboard and provided with a perimeter liner and bottom pad of at least 200-pound test fiberboard. Boxes constructed of at least 350-pound fiberboard having top and bottom pads need not have a perimeter liner. Product must be contained within a tightly closed polyethylene or other equally efficient plastic bag constructed of material having a minimum thickness of 0.004-inch. Not more than 25 pounds net weight of product may be packed in one outside box. Not authorized for transportation by air.

(16) Spec. 12A (§ 178.210 of this subchapter). Fiberboard boxes with inside glass bottles not over 5 pounds capacity each. Not more than 4 inside glass bottles of 5 pounds capacity each shall be packed in one outside container. Shipper must have established that the completed package meets test requirements prescribed by § 178.210-10 of this subchapter.

(17) Spec. 37P (§ 178.133 of this subchapter). Steel drums with polyethylene liner (nonreusable container), not over 15-gallons capacity.

[29 FR 18753, Dec. 29, 1964, as amended by Order 67, 30 FR 7423, June 5, 1965. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-80, 39 FR 15038, Apr. 30, 1974; Amdt. 173-81, 39 FR 17320, May 15, 1974; Amdt. 173-94, 41 FR 16085, Apr. 15, 1976]

§ 173.366 Arsenic (arsenic trioxide) or arsenic acid (solid).

(a) Arsenic (arsenic trioxide) or arsenic acid (solid) must be packed in specification containers as follows:

(1) As prescribed in § 173.365.

(2) [Reserved]

(3) In addition to specification containers prescribed in this section, arsenic (arsenic trioxide) or arsenic acid (solid) may be shipped when packed in portable, collapsible, rubber containers, not over 70 cubic feet capacity, of a type approved by the Bureau of Explosives. Authorized for carload or truckload shipments only.

(b) Import shipments of arsenic (arsenic trioxide) may also be shipped when packed as follows:

(1) Inclosed in strong waterproofed cloth containers, securely sewn and closed so as to provide a sift-proof package, and then packed in strong, tight, metal-strapped wooden boxes constructed of material not less than three-fourths inch thick throughout.

(2) In strong and tight metal drums inclosed in a strong outside wooden barrel.

[29 FR 18753, Dec. 29, 1964. Redesignated, 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-81, 39 FR 17320, May 15, 1974]

§ 173.367 Arsenical compounds, n.o.s.; arsenate of lead; calcium arsenate; Paris green; and arsenical mixtures.

(a) Arsenical compounds n.o.s., arsenate of lead, calcium arsenate, Paris green, and arsenical mixtures must be packed in specification containers as follows:

(1) As prescribed in § 173.365.

(2) Specification 36A or 36B (§§ 178.230, 178.233 of this subchapter). Triplex bags. Authorized only for arsenical insecticides and fungicides containing 10 percent or less of arsenic trioxide. Not authorized for transportation by air.

(3) Specification 44B (§ 178.236 of this subchapter). Multiwall paper bags with inside paper bags, specification 2D (§ 178.23 of this subchapter). Net weight not over 50 pounds each. Not authorized for transportation by air.

(4) Specification 44C (§ 178.237 of this subchapter). Multiwall paper bags. For carload and truckload shipments only. Net weight not over 50 pounds each.

(5) Specification 44D (§ 178.238 of this subchapter). Multiwall paper bags. Where extensible Kraft is used the minimum total basis weight must be 260 pounds and the outer wall may be no less than 60 pounds basis weight. Net weight not over 50 pounds each. Not authorized for transportation by air.

(6) Specification 44E (§ 178.239 of this subchapter). Multi-wall paper bags constructed with minimum total basis weight of 160 pounds. For carload or truckload shipments only by rail or highway transportation; loaded by the consignor and unloaded by the consignee or his duly authorized agent. Net weight not over 50 pounds each. Where extensible Kraft is used, the minimum total basis weight for 40-pound net weight bags must be 190 pounds and for 20-pound net weight bags it must be 150 pounds. Not authorized for transportation by air or water.

(b) Arsenical compounds n. o. s. containing not more than 6 percent arsenic of which not more than 0.5 percent is water soluble must be packed in specification containers as follows:

(1) As prescribed in paragraph (a) (1), (2), or (3) of this section.

(2) Specification 44B (§ 178.236 of this subchapter). Paper bags with two added inside thicknesses of No. 1 Kraft paper one sheet having a Mullen test of 50 and the other sheet having a Mullen test of 40. Net weight not over 50 pounds each. Not authorized for transportation by air.

[29 FR 18753, Dec. 29, 1964, as amended by Order 66, 30 FR 5747, Apr. 23, 1965. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-81, 39 FR 17320, May

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[1] The use of existing tanks authorized but new construction not authorized.

15, 1974; Amdt. 173-94, 41 FR 16085, Apr. 15, 1976]

§ 173.368 Arsenical dust, arsenical flue dust, and other poisonous noncombustible by-product dusts; also arsenic trioxide, calcium arsenate, and sodium arsenate.

(a) Arsenic dust, arsenical flue dust, and other poisonous noncombustible by-product dusts from metal recovery operations not subject to dangerous spontaneous heating, and arsenic trioxide, calcium arsenate, or sodium arsenate, when delivery is made to plants with private sidings only, may, in addition to packagings prescribed in § 173.367, be shipped in bulk in the following kinds of transport vehicles, if those transport vehicles are assigned exclusively to this type of service;

(1) Sift-proof; self-clearing, hopper or bottom outlet steel cars.

(2) Sift-proof, all steel flat bottom gondola cars with fixed sides and ends equipped with waterproof and dustproof wooden or steel covers well secured in place for all openings.

(3) Sift-proof box cars of all steel construction, or "Sift-proof, self-clearing, hopper-type or dump-type motor vehicles having bodies with waterproof and dust-proof covers well secured in place.";

(b) Transport vehicles assigned exclusively to this service must be marked "ARSENICAL SERVICE ONLY," in addition to other required markings, and are not subject to § 174.615 or § 177.841 of this subchapter while in that service.

[Amdt. 173-94, 41 FR 16085, Apr. 15, 1976 as amended by Amdt. 173-94A, 41 FR 40684, Sept. 20, 1976]

§ 173.369 Carbolic acid (phenol), not liquid.

(a) Carbolic acid (phenol), not liquid, must be packed in specification containers as follows:

(1) Spec. 5, 5A, 5B, 5C, 6A, 6B, or 6C (§§ 178.80, 178.81, 178.82, 178.83, 178.97, 178.98, or 178.99 of this subchapter). Metal barrels or drums.

(2) [Reserved]

(3) [Reserved]

(4) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with inside containers which must be metal cans not over 25 pounds capacity each.

(5) Spec. 12B (§ 178.205 of this subchapter). Fiberboard boxes with glass or earthenware inside containers not over 1 quart capacity each, or with metal inside containers not over 1 gallon capacity each. Packages containing glass or earthenware containers must not weigh over 65 pounds gross; packages containing metal cans not over 84 pounds gross as provided in § 178.205-23 of this subchapter, 65 pounds for others.

(6) Spec. 12D (§ 178.207 of this subchapter). Fiberboard boxes with inside containers which must be: Glass or earthenware not over 1 gallon or 5 pounds capacity each; authorized for not more than 75 pounds gross weight; not to contain more than 4 such inside containers if their capacity is greater than 5 pints each.

(7) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or 178.190 of this subchapter). Wooden boxes with glass or earthenware inside containers not over 1 gallon or 5 pounds capacity each, except that inside containers up to 3 gallons or 15 pounds capacity each are authorized when only 1 is packed in each outside container; or with metal inside containers not over 10 gallons capacity each.

(8) Spec. 15A, 15B, or 15C (§§ 178.168, 178.169, or 178.170 of this subchapter). Wooden boxes with metal inside containers. Spec. 2F (§ 178.25 of this subchapter) not over 250 pounds total capacity each.

(9) Spec. 17E or 17H (§ 178.116 or § 178.118 of this subchapter). Metal drums (single-trip).

(10) [Reserved]

(11) Specification 37A or 37B (§§ 178.-131, 178.132 of this subchapter). Metal drums (single-trip). Not authorized for transportation by air.

(12) Spec 42B or 42C (§§ 178.107 or 178.108 of this subchapter). Aluminum drums.

(13) Specification 103,[1] 103W, 103-ALW, 103A,[1] 103AW, 103A-ALW, 111A60-ALW1, 111A60F1, 111A60W1, 111A60W2, 111A100F2, or 115A60W6 (§§ 179.200, 179.201, 179.220, 179.221 of this subchapter). Tank cars.

(i) Tank cars must not be entirely filled. Sufficient interior space must be left vacant to prevent leakage from or distortion due to the contents liquefying and expanding from increase of temperature during transit.

(ii) Solid phenol must not be loaded into domes of tank cars.

(iii) In tank cars, outage must be calculated to percentage of the total capacity of the tank, i.e., shell and dome capacity combined. If the dome of the tank car does not provide sufficient outage, then vacant space must be left in the shell to make up the required outage.

(iv) The outage for tank cars must not be less than one percent.

(14) Specifications MC 300, MC 301, MC 302, MC 303, MC 305, MC 306, MC 310, FC 311, or MC 312 (§§ 178.341, 178.343 of this subchapter). Tank motor vehicles.

(i) No cargo tank or compartment thereof shall be completely filled; sufficient space shall be left vacant in every case to prevent leakage from or distortion of any such cargo tank by expansion of the contents due to rise in temperature in transit, and such free space (outage) shall be sufficient in every case so that such cargo tank shall not become entirely filled with the commodity at 130° F.

(15) Spec. 12A (§ 178.210 of this subchapter). Fiberboard boxes with inside glass, polyethylene, or other nonfragile plastic bottles not over 5 pounds capacity each. Not more than 4 inside glass bottles of 5 pounds capacity each shall be packed in one outside container. Shipper must have established that the completed package meets test requirements prescribed by § 178.210-10 of this subchapter.

(16) Spec. 21C (§ 178.224 of this subchapter). Fiber drums with not more than one inside metal container, spec. 2A (§ 178.20 of this subchapter), having maximum net weight of 50 pounds.

(b) Carbolic acid (phenol), not liquid, in tightly closed inside packagings, securely cushioned when necessary to prevent breakage and packaged as follows, is excepted from the specification packaging requirements of this part.

(1) In inside glass, earthenware, polyethylene or other nonfragile plastic bottles or jars not over 1 pound capacity each, or metal containers not over 5 pounds capacity each, packed in outside wooden boxes, barrels or kegs, or fiberboard boxes. Net weight of contents in fiberboard boxes shall not exceed 65 pounds; and not more than 100 pounds in wooden boxes, barrels or kegs.

[29 FR 18753, Dec. 29, 1964, as amended by Order 66, 30 FR 5747, Apr. 23, 1965; Order 71, 31 FR 9072, July 1, 1966; Order 73, 32 FR 3458, Mar. 2, 1967. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-80, 39 FR 15038, Apr. 30, 1974; Amdt. 173-81, 39 FR 17320, May 15, 1974; Amdt. 173-94, 41 FR 16085, Apr. 15, 1976]

§ 173.370 Cyanides and cyanide mixtures, dry.

(a) Cyanides and cyanide mixtures, dry, except cyanide of calcium and mixtures thereof, unless otherwise provided for in this section, if containing the cyanide equivalent of 10 percent or more of potassium cyanide, must be packaged as follows:

(1) Spec. 15A, 15B, or 15C (§§ 178.168, 178.169, or 178.170 of this subchapter). Wooden boxes with metal inside containers, spec. 2F (§ 178.25 of this subchapter), not over 25 pounds capacity each; or hermetically sealed (soldered) metal lining, spec. 2F, or in glass bottles not over 5 pounds capacity each.

(2) [Reserved]

(3) Spec. 12B or 12C (§§ 178.205 or 178.206 of this subchapter). Fiberboard boxes with metal inside containers, spec. 2F (§ 178.25 of this subchapter) not over 25 pounds capacity each.

(4) Spec. 5, 5A, 5B, 6A, 6B, or 6C (§§ 178.80, 178.81, 178.82, 178.97, 178.98, of 178.99 of this subchapter). Metal barrels or drums.

(5) Spec. 37A or 37 B (§ 178.131 or § 178.132 of this subchapter), metal drums (single-trip containers).

(6) Bulk in watertight metal cars or in watertight container car metal containers.

(7) Spec. 17H (§ 178.118 of this subchapter) metal drums. Gross weight not over 450 pounds.

(8) Specification 45B (§ 178.240 of this subchapter). Bags, cloth, and paper, lined. Authorized only for sodium cyanides of globular or pellet form, diameter not less than ¾-inch. Net weight not over 100 pounds. Not authorized for transportation by air.

(9) Bulk in watertight metal-bodied covered motor vehicles.

(10) [Reserved]

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[1] The use of existing tanks authorized but new construction not authorized.

(11) Spec. 21C (§ 178.224 of this subchapter). Fiber drums. Authorized net weight not over 225 pounds.

(12) Specification 12B (§ 178.205 of this subchapter). Fiberboard boxes constructed of at least 275-pound test double-faced fiberboard and provided with a perimeter liner and bottom pad of at least 200-pound test fiberboard. Boxes constructed of at least 350-pound fiberboard having top and bottom pads may not require perimeter liner. Products must be contained within a tightly closed polyethylene or other equally efficient plastic container constructed of material having minimum thickness of 0.004-inch. Not more than 25 pounds net weight of product may be packed in one outside box. Not authorized for transportation by air.

(13) Bulk in strong, water-tight, metal portable containers of not over 70 cubic feet capacity each, approved by the Bureau of Explosives.

(b) *Exceptions for cyanides, and cyanide mixtures, except cyanide of calcium and mixtures thereof.* Cyanides and cyanide mixtures, except cyanide of calcium and mixtures thereof, when described and packaged as follows, are excepted from the specification packaging requirements of this Part:

(1) Cyanides, or cyanide mixtures, in tightly closed glass, earthenware, metal, or polyethylene inside containers, not over 1 pound each, securely cushioned and packed in outside wooden or fiberboard boxes, or in wooden barrels. Net weight of cyanides or cyanide mixtures in any outside container, not over 25 pounds.

(2) Cyanide mixtures in tightly closed glass, earthenware, or metal inside containers, securely cushioned and packed in outside wooden or fiberboard boxes, or in wooden barrels. Net weight of cyanide mixtures in any outside container, not over 5 pounds.

(3) Cyanides of copper, zinc, lead, and silver are excepted from all packaging requirements except §§ 173.24 and 173.-363.

(c) *Cyanide of calcium and mixtures thereof.* Cyanide of calcium and mixtures thereof must be packed in specification containers as follows:

(1) As prescribed in paragraph (a) (2), (3), (4), (6), (9), or (11) of this section.

(2) Spec. 15A, 15B, or 15C (§§ 178.168, 178.169, or 178.170 of this subchapter). Wooden boxes with metal inside containers, spec. 2F, not over 25 pounds capacity each; or hermetically sealed (soldered) metal lining, spec. 2F (§§ 178.25 of this subchapter).

(3) Spec. 37A or 37B (§ 178.131 or § 178.132 of this subchapter), metal drums (single-trip containers); welded side seams required for Spec. 37B drums and all seams and closures must be watertight and hermetically sealed.

(d) *Exceptions for cyanide of calcium and mixtures thereof.* Cyanide of calcium and mixtures thereof, when described and packaged as follows, are excepted from the specification packaging requirements of this Part.

(1) Cyanide of calcium and mixtures thereof in tightly closed metal inside containers having not over 1 pound net weight each, or metal cans having not over 5 pounds net weight each. Not more than 25-1 pound containers or more than 1-5-pound container securely cushioned may be packed in the outside container which must be wooden or fiberboard boxes, or wooden barrels.

[29 FR 18753, Dec. 29, 1964, as amended by Order 67, 30 FR 7423, June 5, 1965; Order 71, 31 FR 9073, July 1, 1966. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-6, 34 FR 7162, May 1, 1969; Amdt. 173-23, 35 FR 7121, May 6, 1970; Amdt. 173-81, 39 FR 17320, May 15, 1974; Amdt. 173-94, 41 FR 16085, Apr. 15, 1976; Amdt. 173-100, 41 FR 40475, Sept. 20, 1976]

§ 173.371 Dinitrobenzol (dinitrobenzene).

(a) Dinitrobenzol must be packaged as follows:

(1) As prescribed in § 173.346 or 173.365 according to its physical form at 130° F. (55° C.).

[Amdt. 173-94, 41 FR 16085, Apr. 15, 1976]

§ 173.372 Mercury bichloride (mercuric chloride).

(a) Mercury bichloride (mercuric chloride) must be packed in specification containers as follows:

(1) As prescribed in § 173.365.

(2) Spec. 15A (§ 178.168 of this subchapter). Wooden boxes with inside containers consisting of strong paper bags in tightly closed inside wooden boxes.

[29 FR 18753, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FFR 16085, Apr. 15, 1976]

§ 173.373 Ortho-nitroaniline and para-nitroaniline.

(a) Ortho-nitroaniline and para-nitraniline must be packed in specification containers as follows:

(1) As prescribed in § 173.365.

(2) [Reserved]

(3) Spec. 21C (§ 178.224 of this subchapter). Fiber drums. Authorized net weight not over 400 pounds.

(4) In addition to specification containers prescribed in this section, paranitroaniline may be shipped by highway in bulk in strong, water-tight, metal bodied covered hopper motor vehicles.

[29 FR 18753, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173-94, 41 FR 16086, Apr. 15, 1976]

§ 173.374 Nitrochlorbenzene, meta or para.

(a) Nitrochlorbenzene, meta or para, must be packed in specification containers as follows:

(1) As prescribed in § 173.365.

(2) Spec. 21C (§ 178.224 of this subchapter). Fiber drums, authorized only for nitrochlorbenzene, para, flaked. Authorized net weight not over 400 pounds.

(3) Spec. 17E (§ 178.116 of this subchapter). Metal drums (single-trip).

[29 FR 18753, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16086, Apr. 15, 1976]

§ 173.375 Sodium azide.

(a) Sodium azide must be packed in specification containers as follows:

(1) Spec. 15A (§ 178.168 of this subchapter). Wooden boxes, with inside containers which must be securely closed paper bags, placed within a waterproof duplex bag, spec. 2J (§ 178.28 of this subchapter). Net weight of material is one outside box, not over 100 pounds.

[29 FR 18753, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16086, Apr. 15, 1976]

§ 173.376 Aldrin and aldrin mixtures, dry, with more than 65 percent aldrin.

(a) Aldrin and aldrin mixtures, dry, with more than 65 percent aldrin, must be packed in specification containers as follows:

(1) As prescribed in § 173.365.

[29 FR 18753, Dec. 29, 1964, as amended by Order 67, 30 FR 7423, June 6, 1965. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16086, Apr. 15, 1976]

§ 173.377 Hexaethyl tetraphosphate mixtures; methyl parathion mixtures; organic phosphorus compound mixtures organic phosphate compound mixtures; parathion mixtures; tetraethyl dithio pyrophosphate mixtures; and tetraethyl pyrophosphate mixtures, dry.

(a) Hexaethyl tetraphosphate mixtures, methyl parathion mixtures, organic phosphorus compound mixtures, organic phosphate compound mixtures, parathion mixtures, tetraethyl dithio pyrophosphate mixtures, and tetraethyl pyrophosphate mixtures in which the liquid is absorbed in concentrations greater than 2 percent but not exceeding 27 percent in an inert dry material so as to form a dry mixture, must be packed in specification containers as follows:

(1) Spec. 12B or 12C (§ 178.205 or 178.206 of this subchapter), fiberboard boxes, with inside containers which must be metal or fiber cans not over 12 pounds capacity each, or paper bags, spec. 2D, not over 12 pounds capacity each. Fiberboard boxes manufactured and marked for a gross weight of 65 pounds may have a gross weight of 70 pounds provided net weight of contents does not exceed 62 pounds. Inside containers and the completed package must be capable of withstanding the tests prescribed in paragraphs (c), (d), and (e) of this section.

(2) Spec. 15A or 15B (§§ 178.168 or 178.169 of this subchapter), wooden boxes, with inside containers which must be metal or fiber cans not over 12 pounds capacity each, or paper bags, spec. 2D (§ 178.23 of this subchapter), not over 12 pounds capacity each. Inside containers must be capable of withstanding the tests prescribed in paragraphs (c) and (d) of this section.

(3) Spec. 5, 5B, 6A or 6C (§§ 178.80, 178.82, 178.97, or 178.99 of this subchapter), metal barrels or drums.

(4) Spec. 17C, 17H or 37A (§§ 178.115, 178.118, or 178.131 of this subchapter), metal drums (single-trip). Spec. 37A

metal drums authorized for not over 100 pounds net weight.

(5) Specification 21C (§ 178.224 of this subchapter). Fiber drums. Authorized net weight not over 250 pounds.

(b) Hexaethyl tetraphosphate mixtures, methyl parathion mixtures, organic phosphorus compound mixtures, organic phosphate compound mixtures, parathion mixtures, tetraethyl dithio pyrophosphate mixtures, and tetraethyl pyrophosphate mixtures in which the liquid is absorbed in concentrations greater than 27 percent in an inert dry material so as to form a dry mixture, must be packed in specification containers as follows:

(1) Spec. 12 B or 12C (§§ 178.205 or 178.206 of this subchapter), fiberboard boxes, with inside containers which must be metal cans not over 12 pounds capacity each. Inside containers and the completed package must be capable of withstanding the tests prescribed in paragraphs (c), and (e) of this section.

(2) Spec. 15A or 15B (§§ 178.168 or 178.169 of this subchaper), wooden boxes, with inside containers which must be metal cans not over 12 pounds capacity each. Inside containers must be capable of withstanding the tests prescribed in paragraph (c) of this section.

(3) Spec. 5, 5B, 6A, or 6C (§§ 178.80, 178.82, 178.97, or 178.99 of this subchapter), metal barrels or drums.

(4) Spec. 17C, 17H, or 37A (§§ 178.115, 178.118, or 178.131 of this subchapter), metal drums (single-trip). Spec. 37A metal drums authorized for not over 100 pounds net weight.

(5) Spec. 21C (§ 178.224 of this subchapter). Fiber drums. Authorized only for mixtures in which the liquid is absorbed in concentration not greater than 50 percent. Authorized net weight not over 225 pounds.

(c) Inside metal or fiber cans when closed as for shipment must be capable of withstanding two four-foot drops onto solid concrete without breakage of the container or any sifting of the contents. One drop must be on side of can and the other diagonally on the top rim or chime.

(d) Inside paper bags when closed as for shipment must be capable of withstanding two four-foot drops onto solid concrete without breakage of the container or any sifting of the contents. One drop must be made on bottom of bag and the other on either large face.

(e) Completed packages when closed as for shipment must be capable of withstanding two four-foot drops onto solid concrete without breakage of the container or any sifting of the contents. One drop must be made on bottom of package and the other drop on the smallest adjacent side area.

(f) Dry mixtures containing not more than 2 percent by weight of hexaethyl tetraphosphate, methyl parathion, organic phosphorus compound mixtures, organic phosphate compound mixtures, parathion, tetraethyl dithio pyrophosphate, or tetraethyl pyrophasphate and in which the liquid is absorbed in an inert material, are excepted from specification packaging requirements of this part.

(g) Dry mixtures containing more than 2 percent but not exceeding 15 percent by weight of hexaethyl tetraphosphate, methyl parathion mixtures, organic phosphorus compound mixtures, organic phosphate compound mixtures, parathion, tetraethyl dithio pyrophosphate, or tetraethyl pyrophosphate, and in which the liquid is absorbed in an inert material, in addition to containers prescribed in paragraphs (a) and (b) of this section, may be packed in specification containers as follows:

(1) Spec. 44B (§ 178.236 of this subchapter). Multiwall paper bags with inside paper bags, spec. 2D (§ 178.23 of this subchapter), not over 5 pounds capacity each. Net weight of material in outside container not over 30 pounds each. Not authorized for transportation by air.

(2) Spec. 12B (§ 178.205 of this subchapter), Fiberboard boxes constructed of at least 275-pound test double-faced fiberboard and provided with a perimeter liner and top and bottom pad of at least 275-pound test fiberboard. Product must be contained within a tightly closed polyethylene or other equally efficient plastic bag constructed of material having minimum thickness of 0.003 inch. Not more than 50 pounds net weight of product may be packed in one outside box.

(h) Dry mixtures containing more than 2 percent but not exceeding 5 percent by weight of hexaethyl tetraphosphate, methyl parathion mixtures, organic phosphorus compound mixtures, organic phosphate compound mixtures, parathion, tetraethyl dithiopyrophosphate, or tetraethyl pyrophosphate, and in which the liquid is absorbed in an inert material, in addition to containers prescribed in paragraphs (a), (b), and (g) of this section, may be packed in specification containers as follows:

(1) Spec. 44D (§ 178.238 of this subchapter). Multiwall paper bags not over 50 pounds net weight each. Where extensible kraft is used the minimum total basis weight shall be 260 pounds. Not authorized for transportation by air.

(i) Dry mixtures containing more than 2 percent but not exceeding 12 percent by weight of hexaethyl tetraphosphate, methyl parathion mixtures, organic phosphorus compound mixtures, organic phosphate compound mixtures, parathion, tetraethyl dithio pyrophosphate or tetraethyl pyrophosphate, and in which the liquid is absorbed in an inert material, in addition to containers prescribed in paragraphs (a), (b), and (g) of this section, may be packed in specification containers as follows:

(1) Spec. 44D (§ 178.238 of this subchapter). Multiwall paper bags not over 50 pounds net weight each. Outer ply to be not less than 60 pounds basis weight. Not authorized for transportation by air.

[29 FR 18753, Dec. 29, 1964, as amended by Order 67, 30 FR 7423, June 5, 1965. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-6, 34 FR 7162, May 1, 1969; Amdt. 173-94, 41 FR 16086, Apr. 15, 1976; Amdt. 173-94A, 41 FR 40684, Sept. 20, 1976]

§ 173.379 Cyanogen bromide.

Cyanogen bromide must be packaged in tightly closed metal inside containers not over 1-pound capacity each, securely cushioned and packaged in an outside wooden box. Net weight may not exceed 25 pounds in one outside packaging.

[Amdt. 173-94, 41 FR 16086, Apr. 15, 1976]

§ 173.381 Irritating materials; Definition and general packaging requirements.

(a) For the purpose of Parts 170-189 of this subchapter, an irritating material is a liquid or solid substance which upon contact with fire or when exposed to air gives off dangerous or intensely irritating fumes, such as brombenzylcyanide, chloracetophenone, diphenylaminechlorarsine, and diphenylchlorarsine, but not including any poisonous material, Class A.

(b) *Cushioning*. All packagings must be hermetically closed. Inside packagings must be cushioned as prescribed when necessary to prevent breakage or leakage.

(c) *Outage*. No packaging used for the transportation of any liquid irritating material may be completely filled. For packagings with a capacity of 110 gallons or less, sufficient outage must be provided so the packaging will not be liquid full at 130° F. (55° C.).

(d) The transportation of an irritating material is not permitted if there is any type of interconnection between packagings.

(e) Any pressure in a cylinder at 130° F. (55° C.) must not exceed ¾ the marked service pressure of the cylinder.

[29 FR 18753, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173-70, 38 FR 5309, Feb. 27, 1973; Amdt. 173-94, 41 FR 16086, Apr. 15, 1976]

§ 173.382 Irritating materials, not specifically provided for.

(a) Irritating materials, as defined in § 173.381 for which special packaging is not otherwise prescribed, except as provided in paragraph (b) of this section, must be packaged as follows:

(1) Spec. 5, 5A, 5B or 5C (§ 178.80, 178.81, 178.82 or 178.83 of this subchapter) metal barrels or drums; or spec. 17C (single-trip) (§ 178.115 of this subchapter) metal drums not over 5 gallons capacity each.

(2) Spec. 6A, 6B, or 6C (§§ 178.97, 178.98, or 178.99 of this subchapter). Metal barrels or drums.

(3) Spec. 15A or 15B (§§ 178.168 or 178.169 of this subchapter). Wooden boxes with inside metal containers of not over 1 liquid gallon (10 pounds) capacity each. Not over 8 liquid gallons (80 pounds) of material may be packed in any outside container.

(4) Cylinders as prescribed for any compressed gas, except acetylene, are also authorized for use. These cylinders must be qualified, maintained, and filled in accordance with §§ 173.34 and 173.301 (g), if used for material with pressure exceeding 25 pounds per square inch at 70° F., they must also be retested as required by § 173.34.

(b) Chloroacetophene, diphenylaminechloroarsine, irritating material, n.o.s., or xylyl bromide, charged with a nonflammable gas exceeding 25 psig at 70° F. must be packaged as specified in paragraph (a) (4) of this section.

[29 FR 18753, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173-94, 41 FR 16086, Apr. 15, 1976]

§ 173.383 Chemical ammunition.

(a) Chemical ammunition consisting of projectiles, shells, bombs, or other containers, except grenades, filled with an irritating material without ignition elements, bursting charges, detonating fuzes, or other explosive components, must be packaged for shipment in strong outside wooden or metal boxes. Boxes must be marked with name of contents and labeled as prescribed in this part for gases, liquids, or chemicals contained therein.

(b) Chemical ammunition, when shipped as such, must not be equipped or packed with explosive or ignition elements (see §§ 173.53(r) and 173.59 for explosive chemical ammunition).

[29 FR 18753, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173-70, 38 FR 5309, Feb. 27, 1973]

§ 173.384 [Reserved]

§ 173.385 Tear gas grenades, tear gas candles, or similar devices.

(a) Tear gas grenades, tear gas candles, or similar devices containing lachrymatory (tear producing) substances, for civil or military use must be packed in specification containers as follows (see § 173.101 (d) and (e) for packing tear gas cartridges):

(1) Specification 15A, 15B, or 15C (§§ 178.168, 178.169, 178.170 of this subchapter). Metal-strapped wooden boxes. Functioning elements not assembled in grenades or devices must be in a separate compartment of these boxes, or in inside or separate outside boxes, specification 15A, 15B, or 15C, and must be so packed and cushioned that they may not come in contact with each other or with the walls of boxes during transportation. Not more than 50 grenades and 50 functioning devices shall be packed in one package and the gross weight of the package must not exceed 75 pounds.

(2) Spec. 37A (§ 178.131 of this subchapter). Metal drum (single-trip). Functioning elements must be packed in separate compartment. Not more than 24 grenades and 24 functioning devices shall be packed in one outside container and the gross weight of the container must not exceed 75 pounds.

(b) These articles must not be assembled with or packed in the same compartment with mechanically or manually operated firing, igniting, bursting, or other functioning elements, unless of a type or design approved by the Bureau of Explosives.

(c) Pending approval by the Department of regulations classifying the numerous devices within the general descriptions of this section, and providing appropriate restrictions to be observed in the transportation thereof, no shipment of packages containing articles under this section shall be made until samples thereof have been examined by the Bureau of Explosives or by other competent testing laboratory in the presence of representative of the Bureau of Explosives, and the shipment is shown to possess such resistance to shocks of transportation and protection against leakage of contents as are afforded by standard types of packages described in Part 178 of this chapter, and the packages are labeled or marked to show compliance with this part.

NOTE 1: Grenades or other similar devices may be shipped completely assembled when shipments are made by, for, or to the Departments of the Army, Navy, and Air Force of the United States Government, provided the functioning element is so packed that it cannot accidentally function. The outside containers must be metal-strapped wooden boxes, spec. 15A, 15B, or 15C (§§ 178.168, 178.169, or 178.170 of this subchapter).

[29 FR 18753, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 173-6, 34 FR 7162, May 1, 1969; Amdt. 173-94, 41 FR 16086, Apr. 15, 1976]

§ 173.386 Etiologic agents; definition and scope.

(a) *Definition.* For the purpose of Parts 170-189 of this subchapter:

(1) An "etiologic agent" means a viable microorganism, or its toxin, which causes or may cause human disease, and is limited to those agents listed in 42 CFR 72.25(c) of the regulations of the Department of Health, Education, and Welfare.

(2) A "diagnostic specimen" means any human or animal material including, but not limited to, excreta, secreta, blood, and its components, tissue, and tissue fluids, being shipped for purposes of diagnosis.

(3) A "biological product" means a material prepared and manufactured in accordance with the provisions of 9 CFR Part 102 (licensed veterinary biological products), 42 CFR Part 273 (licensed human biological products), 21 CFR Part 130, § 130.3 (new drugs for investigational use in humans), 9 CFR Part 103 (biological products for experimental treatment of animals), or 21 CFR Part 130, § 130.3a (new drugs for investigational use in animals), and which in accordance with these provisions, may be shipped in interstate commerce.

(b) *Applicability.* Except as provided in paragraph (d), no person may ship any material, including a diagnostic specimen or a biological product, containing an etiologic agent unless this material is packaged and prepared for shipment in accordance with § 173.24 and the other applicable regulations of this subchapter.

(c) *General provisions.* The requirements of these regulations (Parts 170-189 of this subchapter) supplement the requirements of the Department of Health, Education, and Welfare's regulations contained in 42 CFR 72.25.

(d) *Exemptions.* The following substances are not subject to any requirements of this subchapter if the items as packaged do not contain any material otherwise subject to the requirements of Parts 170-189 of this subchapter:

(1) Diagnostic specimens; and

(2) Biological products.

(3) Cultures of etiologic agents of 50 milliliters (1.666 fluid ounces) or less total quantity in one outside package.

[Amdt. 173-67, 37 FR 20555, Sept. 30, 1972, as amended by Amdt. 173-72, 38 FR 8162, Mar. 29, 1973]

§ 173.387 Packaging requirements for etiologic agents.

(a) Except as provided in § 173.386(d) no person may ship a package containing over 4 liters gross volume of an etiologic agent.

(b) In addition to the requirements of 42 CFR 72.25(c), each package containing an etiologic agent must be designed and constructed so that, if it were subject to the environment and test conditions prescribed in this section, there would be no release of the contents to the environment, and the effectiveness of the packaging would not be significantly reduced.

(1) *Environmental conditions.* (i) Heat—direct sunlight in an ambient temperature of 130° F. in still air.

(ii) Cold—an ambient temperature of −40° F. in still air and shade.

(iii) Reduced pressure—ambient atmospheric pressure of 0.50 atmosphere (7.3 p.s.i.a.).

(iv) Vibration—vibration normally incident in the mode of transportation the package is to be shipped.

(2) *Test conditions.* (i) Water spray—a water spray heavy enough to keep the entire exposed surface of the package (except the bottom) continuously wet during a period of 30 minutes. Packages for which the outer layer consists of metal, wood, ceramic, or plastic, or combination thereof, are exempt from this test.

(ii) Freedrop—a freedrop through a distance of 30 feet onto a flat, essentially unyielding horizontal target surface, the package striking the surface in a position for which maximum damage is expected.

(iii) Penetration—impact of the hemispheric end of a steel cylinder 1.25 inches in diameter and weighing 15 pounds, dropped from a height of 40 inches on to the exposed surface of the package expected to be most vulnerable to puncture. The long axis of the cylinder must be perpendicular to the impacted surface. This test is not required for a package subject to subdivision (iv) of this subparagraph.

(iv) Penetration (required for packages exceeding 15 pounds gross weight only)—a freedrop of the package through a distance of 40 inches, striking the top end of a vertical cylindrical mild steel solid bar on an essentially unyielding surface, in a position for which maximum damage is expected. The bar must be 1.5 inches in diameter. The top of the bar must be horizontal, with its edge rounded to a radius not exceeding one-quarter inch. The bar must be of such length as to cause maximum damage to the package, but not less than 8 inches long. The long axis of the bar must be vertical to the unyielding horizontal impact surface of the package.

(3) *Testing procedure.* (i) At least one sample of each type package (maximum

size and gross weight), filled with water, must be subjected to the water spray test unless exempted by subparagraph (2) (i) of this paragraph.

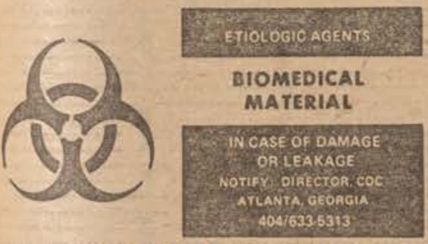
(ii) This sample package then must be given the freedrop and one of the penetration tests, as applicable. Separate wetted sample packages may be used for the freedrop and the penetration test.

(iii) If the sample package is exempted from the water spray test by subparagraph (2) (i) of this paragraph, at least one sample of each type package (maximum size and gross weight), filled with water, must be subjected consecutively to the freedrop and the penetration test.

[Amdt. 173-67, 37 FR 20556, Sept. 30, 1972]

§ 173.388 Labeling of packages containing etiologic agents.

(a) Each package containing an etiologic agent, except a diagnostic specimen or a biological product, must be labeled as prescribed by the regulations of the Department of Health, Education, and Welfare, 42 CFR § 72.25(c) (4). For information, this label is required to be a rectangle measuring 51 mm. (2 inches) high and 102.5 mm. (4 inches) long, predomiantly red printing on a white background, and appears as follows:



[Amdt. 173-67, 37 FR 20556, Sept. 30, 1972]

§ 173.389 Radioactive materials; definitions.

For the purpose of Parts 170-189 of this subchapter:

(a) "Fissile radioactive material" means the following material: Plutonium-238, plutonium-239, plutonium-241, uranium-233, or uranium-235, or any material containing any of the foregoing materials. See § 173.396(a) for exclusions. Fissile radioactive material packages are classified according to the controls needed to provide nuclear criticality safety during transportation as follows:

(1) *Fissile Class I.* Packages which may be transported in unlimited numbers and in any arrangement, and which require no nuclear criticality safety controls during transportation. For purposes of nuclear criticality safety control, a transport index is not assigned to Fissile Class I packages. However, the external radiation levels may require a transport index number.

(2) *Fissile Class II.* Packages which may be transported together in any arrangement but in numbers which do not exceed an aggregate transport index of 50. For purposes of nuclear criticality safety control, individual packages may have a transport index of not less than 0.1 and not more than 10. However, the external radiation levels may require a higher transport index number but not to exceed 10. Such shipments require no nuclear criticality safety control by the shipper during transportation.

(3) *Fissile Class III.* Shipments of packages which do not meet the requirements of Fissile Class I or II and which are controlled to provide nuclear criticality safety in transportation by special arrangements between the shipper and the carrier.

NOTE 1: Uranium-235 exists only in combination with various percentages of uranium-234 and uranium-238. "Fissile radioactive material" as applied to uranium-235 refers to the amount of uranium-235 actually contained in the total quantity of uranium being transported.

NOTE 2: Radioactive material may consist of mixtures of fissile and non-fissile radionuclides. "Fissile radioactive material" refers to the amount of plutonium-238, plutonium-239, plutonium-241, uranium-233, uranium-235, or any combination thereof actually contained in the mixture. The "radioactivity" of the mixture consists of the total activity of both the fissile and nonfissile radionuclides. All mixtures containing "fissile material" shall be subject to § 173.396.

(b) "Large quantity radioactive materials" means a quantity the aggregate radioactivity of which exceeds that specified as follows:

(1) Groups I or II (see paragraph (h) of this section) radionuclides: 20 curies.

(2) Groups III or IV radionuclides: 200 curies.

(3) Group V radionuclides: 5,000 curies.

(4) Groups VI or VII radionuclides: 50,000 curies.

(5) Special form material: 5,000 curies.

(c) "Low specific activity material" means any of the following:

(1) Uranium or thorium ores and physical or chemical concentrates of those ores;

(2) Unirradiated natural or depleted uranium or unirradiated natural thorium;

(3) Tritium oxide in aqueous solutions provided the concentration does not exceed 5 millicuries per milliliter;

(4) Material in which the activity is essentially uniformly distributed and in which the estimated average concentration per gram of contents does not exceed:

(i) 0.0001 millicuries of Group I (see § 173.389(h)) radionuclides; or

(ii) 0.005 millicuries of Group II radionuclides; or

(iii) 0.3 millicuries of Groups III or IV radionuclides.

NOTE: This includes, but is not limited to, materials of low radioactivity concentration such as residues or solutions from chemical processing; wastes such as building rubble, metal, wood, and fabric scrap, glassware, paper and cardboard; solid or liquid plant waste, sludges, and ashes.

(5) Objects of nonradioactive material externally contaminated with radioactive material, provided that the radioactive material is not readily dispersible and the surface contamination when averaged over an area of 1 square meter, does not exceed 0.0001 millicurie (220,000 disintegrations per minute) per square centimeter of Group I radionuclides or 0.001 millicurie (2,200,000 disintegrations per minute) per square centimeter of other radionuclides.

(d) "Normal form radioactive materials" means those which are not special form radioactive materials. Normal form radioactive materials are grouped into transport groups (see paragraph (h) of this section).

(e) "Radioactive material" means any material or combination of materials, which spontaneously emits ionizing radiation. Materials in which the estimated specific activity is not greater than 0.002 microcuries per gram of material, and in which the radioactivity is essentially uniformly distributed, are not considered to be radioactive materials.

(f) "Removable radioactive contamination" means radioactive contamination which can be readily removed in measurable quantities by wiping the contaminated surface with an absorbent material. The measurable quantities shall be considered as being not significant if they do not exceed the limits specified in § 173.397.

(g) "Special form radioactive materials" means those which, if released from a package, might present some direct radiation hazard but would present little hazard due to radiotoxicity and little possibility of contamination. This may be the result of inherent properties of the material (such as metals or alloys), or acquired characteristics, as through encapsulation. The criteria for determining whether a material meets the definition of special form are prescribed in § 173.398(a).

(h) "Transport group" means any one of seven groups into which normal form radionuclides are classified according to their radiotoxicity and their relative potential hazard in transportation, and as listed in § 173.390.

(i) "Transport index" means the number placed on a package to designate the degree of control to be exercised by the carrier during transportation. The transport index to be assigned to a package of radioactive materials shall be determined by either subparagraph (1) or (2) of this paragraph, whichever is larger. The number expressing the transport index shall be rounded up to the next highest tenth; e.g., 1.01 becomes 1.1.

(1) The highest radiation dose rate, in millirem per hour at three feet from any accessible external surface of the package; or

(2) For Fissile Class II packages only, the transport index number calculated by dividing the number "50" by the number of similar packages which may be transported together (see § 173.396), as determined by the procedures prescribed in the regulations of the U.S. Nuclear Regulatory Commission, Title 10, Code of Federal Regulations, Part 71.

(j) "Type A packaging" means packaging which is designed in accordance with the general packaging requirements of §§ 173.24 and 173.393, and which is adequate to prevent the loss or dispersal of the radioactive contents and to retain the efficiency of its radiation shielding properties if the package is subject to the tests prescribed in § 173.398(b).

(k) "Type B packaging" means packaging which meets the standards for Type A packaging, and, in addition, meets the standards for hypothetical accident conditions of transportation as prescribed in § 173.398(c).

(l) "Type A quantity" and "Type B quantity" radioactive materials means a quantity the aggregate radioactivity of which does not exceed that specified as follows:

Transport group (see § 173.389(b))	Type A quantity (in curies)	Type B quantity (in curies)
I	0.001	20
II	0.05	20
III	3	200
IV	20	200
V	20	5,000
VI and VII	1,000	50,000
Special form	20[1]	5,000

[1] Except that for Californium-252 the Type A quantity limit for special form is 2 curies.

(m) *Containment system.* Containment system of a radioactive materials package means those components of the packaging including special form encapsulation where used, which have been specified by the package designer as intended to retain the radioactive contents during transport, whether or not individual vessels in the packaging retain their integrity of containment.

(n) *Maximum normal operating pressure.* Maximum normal operating pressure means the maximum pressure above atmospheric pressure at mean sea level that would develop in the containment system in a period of 1 year, under the conditions of temperature and solar radiation corresponding to environmental conditions of transport in the absence of venting, external cooling by an ancillary system, or operational controls during transport.

(o) "Exclusive Use" (also referred to as "sole use" or "Full Load" as used in IAEA regulations) means any shipment:

(1) From a single consignor having the exclusive use of a transport vehicle or of an aircraft, or of a hold or compartment of an inland watercraft, or of a hold, compartment, or defined deck area of a seagoing vessel; and

(2) For which all initial, intermediate, and final loading and unloading is carried out by or under the direction of the consignor, consignee, or his designated agent.

(p) "Radioactive Device" means any manufactured article such as an instrument, clock, electronic tube or apparatus, or similar device having radioactive material (other than liquid) in a nondispersible form as a component part.

(q) "Closed transport vehicle" means a vehicle equipped with a securely attached exterior enclosure, which during normal transport, restricts the access of unauthorized persons to the cargo space containing the radioactive materials. The enclosure may be either temporary or permanent, may be of the "see-through" type, and must limit access from top, sides, and ends.

[Amdt. 173-3, 33 FR 14922, Oct. 4, 1968; 33 FR 19823, Dec. 27, 1968, as amended by Amdt. 173-64, 37 FR 14588, July 21, 1972; Amdt. 173-66, 37 FR 17970, Sept. 2, 1972; Amdt. 173-90, 39 FR 45240, Dec. 31, 1974 Amdt. 173-94, 41 FR 16086, Apr. 15, 1976]

§ 173.390 Transport groups of radionuclides.

(a) List of radionuclides:

Element[1]	Radionuclide[2]	Transport group						
		I	II	III	IV	V	VI	VII
Actinium (89)	Ac-227	X						
	Ac-228	X						
Americium (95)	Am-241	X						
	Am-243	X						
Antimony (51)	Sb-122				X			
	Sb-124			X				
	Sb-125			X				
Argon (18)	Ar-37						X	
	Ar-41		X					
	Ar-41 (uncompressed)[3]					X		
Arsenic (33)	As-73				X			
	As-74				X			
	As-76				X			
	As-77				X			
Astatine (85)	At-211			X				
Barium (56)	Ba-131				X			
	Ba-133		X					
	Ba-140			X				
Berkelium (97)	Bk-249	X						
Beryllium (4)	Be-7				X			
Bismuth (83)	Bi-206				X			
	Bi-207			X				
	Bi-210		X					
	Bi-212			X				
Bromine (35)	Br-82				X			
Cadmium (48)	Cd-109				X			
	Cd-115m			X				
	Cd-115				X			
Calcium (20)	Ca-45				X			
	Ca-47				X			
Californium (98)	Cf-249	X						
	Cf-250	X						
	Cf-252	X						
Carbon (6)	C-14				X			
Cerium (58)	Ce-141				X			
	Ce-143				X			
	Ce-144			X				
Cesium (55)	Cs-131				X			
	Cs-134m			X				
	Cs-134			X				
	Cs-135				X			
	Cs-136				X			
	Cs-137			X				
Chlorine (17)	Cl-36			X				
	Cl-38				X			
Chromium (24)	Cr-51				X			
Cobalt (27)	Co-56			X				
	Co-57				X			
	Co-58m				X			
	Co-58				X			
	Co-60			X				
Copper (29)	Cu-64				X			
Curium (96)	Cm-242	X						
	Cm-243	X						
	Cm-244	X						
	Cm-245	X						
	Cm-246	X						
Dysprosium (66)	Dy-154			X				
	Dy-165				X			
	Dy-166				X			
Erbium (68)	Er-169				X			
	Er-171				X			
Europium (63)	Eu-150			X				
	Eu-152m				X			
	Eu-152			X				
	Eu-154		X					
	Eu-155				X			
Fluorine (9)	F-18				X			
Gadolinium (64)	Gd-153				X			
	Gd-159				X			
Gallium (31)	Ga-67			X				
	Ga-72				X			
Germanium (32)	Ge-71				X			
Gold (79)	Au-193			X				
	Au-194			X				
	Au-195			X				
	Au-196				X			
	Au-198				X			
	Au-199				X			

See footnotes at end of table.

Element[1]	Radionuclide[2]	Transport group I	II	III	IV	V	VI	VII
Hafnium (72)	Hf-181				X			
Holmium (67)	Ho-166				X			
Hydrogen (1)	H-3 (see tritium)							
Indium (49)	In-113m				X			
	In-114m			X				
	In-115m				X			
	In-115				X			
Iodine (53)	I-124			X				
	I-125			X				
	I-126			X				
	I-129			X				
	I-131			X				
	I-132				X			
	I-133			X				
	I-134				X			
	I-135				X			
Iridium (77)	Ir-190				X			
	Ir-192			X				
	Ir-194				X			
Iron (26)	Fe-55				X			
	Fe-59				X			
Krypton (36)	Kr-85m			X				
	Kr-85m (uncompressed)[3]					X		
	Kr-85			X				
	Kr-85 (uncompressed)[3]						X	
	Kr-87		X					
	Kr-87 (uncompressed)[3]					X		
Lanthanum (57)	La-140				X			
Lead (82)	Pb-203				X			
	Pb-210		X					
	Pb-212		X					
Lutecium (71)	Lu-172			X				
	Lu-177				X			
Magnesium (12)	Mg-28			X				
Manganese (25)	Mn-52				X			
	Mn-54				X			
	Mn-56				X			
Mercury (80)	Hg-197m				X			
	Hg-197				X			
	Hg-203				X			
Mixed Fission Products	MF-P		X					
Molybdenum (42)	Mo-99				X			
Neodymium (60)	Nd-147				X			
	Nd-149				X			
Neptunium (93)	Np-237	X						
	Np-239	X						
Nickel (28)	Ni-56			X				
	Ni-59				X			
	Ni-63				X			
	Ni-65				X			
Niobium (41)	Nb-93m				X			
	Nb-95				X			
	Nb-97				X			
Osmium (76)	OS-185				X			
	OS-191m				X			
	OS-191				X			
	OS-193				X			
Palladium (46)	Pd-103				X			
	Pd-109				X			
Phosphorus (15)	P-32				X			
Platinum (78)	Pt-191				X			
	Pt-193				X			
	Pt-193m				X			
	Pt-197m				X			
	Pt-197				X			
Plutonium (94)	Pu-238[4]	X						
	Pu-239[4]	X						
	Pu-240	X						
	Pu-241[4]	X						
	Pu-242	X						
Polonium (84)	Po-210	X						
Potassium (19)	K-42				X			
	K-43			X				
Praseodymium (59)	Pr-142				X			
	Pr-143				X			
Promethium (61)	Pm-147				X			
	Pm-149				X			
Protactinium (91)	Pa-230	X						
	Pa-231	X						
	Pa-233		X					

See footnotes at end of table.

Element [1]	Radionuclide [2]	Transport group						
		I	II	III	IV	V	VI	VII
Radium (88)	Ra-223		X					
	Ra-224		X					
	Ra-226	X						
	Ra-228	X						
Radon (86)	Rn-220				X			
	Rn-222		X					
Rhenium (75)	Re-183				X			
	Re-186				X			
	Re-187				X			
	Re-188				X			
	Re Natural				X			
Rhodium (45)	Rh-103m				X			
	Rh-105				X			
Rubidium (37)	Rb-86				X			
	Rb-87				X			
	Rb Natural				X			
Ruthenium (44)	Ru-97				X			
	Ru-103				X			
	Ru-105				X			
	Ru-106			X				
Samarium (62)	Sm-145			X				
	Sm-147			X				
	Sm-151				X			
	Sm-153				X			
Scandium (21)	Sc-46			X				
	Sc-47				X			
	Sc-48				X			
Selenium (34)	Se-75				X			
Silicon (14)	Si-31				X			
Silver (47)	Ag-105				X			
	Ag-110m			X				
	Ag-111				X			
Sodium (11)	Na-22			X				
	Na-24				X			
Strontium (38)	Sr-85m				X			
	Sr-85				X			
	Sr-89			X				
	Sr-90		X					
	Sr-91			X				
	Sr-92				X			
Sulphur (16)	S-35				X			
Tantalum (73)	Ta-182			X				
Technetium (43)	Tc-96m				X			
	Tc-96				X			
	Tc-97m				X			
	Tc-97				X			
	Tc-99m				X			
	Tc-99				X			
Tellurium (52)	Te-125m				X			
	Te-127m				X			
	Te-127				X			
	Te-129m			X				
	Te-129				X			
	Te-131m			X				
	Te-132				X			
Terbium (65)	Tb-160			X				
Thallium (81)	Tl-200				X			
	Tl-201				X			
	Tl-202				X			
	Tl-204			X				
Thorium (90)	Th-227		X					
	Th-228	X						
	Th-230	X						
	Th-231	X						
	Th-232			X				
	Th-234		X					
	Th Natural			X				
Thulium (69)	Tm-168			X				
	Tm-170			X				
	Tm-171				X			
Tin (50)	Sn-113				X			
	Sn-117m			X				
	Sn-121			X				
	Sn-125				X			
Tritium (1)	H-3				X			
	H-3 (as a gas, as luminous paint, or adsorbed on solid material).							X
Tungsten (74)	W-181				X			
	W-185				X			
	W-187				X			

See footnotes at end of table.

Element [1]	Radionuclide [3]	I	II	III	IV	V	VI	VII
		Transport group						
Uranium (92)	U-230		X					
	U-232	X						
	U-233 [4]		X					
	U-234		X					
	U-235 [4]			X				
	U-236		X					
	U-238			X				
	U Natural			X				
	U Enriched [4]			X				
	U Depleted			X				
Vanadium (23)	V-48				X			
	V-49			X				
Xenon (54)	Xe-125			X				
	Xe-131m			X				
	Xe-131m (uncompressed) [2]					X		
	Xe-133			X				
	Xe-133 (uncompressed) [2]						X	
	Xe-135		X					
	Xe-135 (uncompressed) [2]					X		
Ytterbium (70)	Yb-175				X			
Yttrium (39)	Y-88			X				
	Y-90				X			
	Y-91m			X				
	Y-91			X				
	Y-92				X			
	Y-93				X			
Zinc (30)	Zn-65				X			
	Zn-69m				X			
	Zn-69				X			
Zirconium (40)	Zr-93				X			
	Zr-95			X				
	Zr-97				X			

[1] Atomic number shown in parentheses.
[2] Uncompressed means at a pressure not exceeding 14.7 p.s.i. (absolute).
[3] Atomic weight shown after the radionuclide symbol.
[4] Fissile radioactive material.

(b) Any radionuclide not listed in the above table shall be assigned to one of the groups in accordance with the following table:

Radionuclide	Radioactive half-life		
	0-1,000 days	1,000 days to 10^6 years	Over 10^6 years
Atomic number 1-81.	Group III.	Group II.	Group III.
Atomic number 82 and over.	Group I.	Group I.	Do.

NOTE 1: No unlisted radionuclides shall be assigned to Groups IV, V, VI, or VII.

(c) For mixtures of radionuclides the following shall apply:

(1) If the identity and respective activity of each radionuclide are known, the permissible activity of each radionuclide shall be such that the sum, for all groups present, of the ratio between the total activity for each group to the permissible activity for each group will not be greater than unity.

(2) If the groups of the radionuclides are known but the amount in each group cannot be reasonably determined, the mixture shall be assigned to the most restrictive group present.

(3) If the identity of all or some of the radionuclides cannot be reasonably determined, each of those unidentified radionuclides shall be considered as belonging to the most restrictive group which cannot be positively excluded.

(4) Mixtures consisting of a single radioactive decay chain where the radionuclides are in the naturally occurring proportions shall be considered as consisting of a single radionuclide. The group and activity shall be that of the first member present in the chain, except if a radionuclide "x" has a half-life longer than that of that first member and an activity greater than that of any other member including the first at any time during transportation; in that case, the transport group of the nuclide "x" and the activity of the mixture shall be the maximum activity of that nuclide "x" during transportation.

[Amdt. 173-3, 33 F.R. 14923, Oct. 4, 1968]

§ 173.391 Limited quantities of radioactive materials and radioactive devices.

(a) Limited quantities of radioactive materials in normal form not exceeding 0.01 millicurie of Group I radionuclides; 0.1 millicurie of Group II radionuclides; 1 millicurie of Groups III, IV, V, or VI radionuclides; 25 curies of Group VII radionuclides; tritium oxide in aqueous solution with a concentration not exceeding 0.5 millicuries per milliliter and with a total activity per package of not more than 3 curies; or 1 millicurie of radioactive material in special form; and not containing more than 15 grams of uranium-235 are excepted from specification packaging, marking, and labeling, and are excepted from the provisions of § 173.393, if the following conditions are met:

(1) The materials are packaged in strong tight packages such that there will be no leakage of radioactive materials under conditions normally incident to transportation.

(2) The package must be such that the radiation dose rate at any point on the external surface of the package does not exceed 0.5 millirem per hour.

(3) There must be no significant removable radioactive surface contamination on the exterior of the package (see § 173.397).

(4) The outside of the inner container must bear the marking "Radioactive."

(b) Manufactured articles such as instruments, clocks, electronic tubes or apparatus, or other similar devices, having limited quantities of radioactive materials (other than liquids) in a nondispersible form as a component part, are excepted from specification packaging, marking, and labeling, and are excepted from the provisions of § 173.393, if the following conditions are met:

NOTE 1: For radioactive gases, the requirement for the radioactive material to be in a nondispersible form does not apply.

(1) Radioactive materials are securely contained within the devices, or are securely packaged in strong, tight packages, so that there will be no leakage of radioactive materials under conditions normally incident to transportation.

(2) The radiation dose rate at four inches from any unpackaged device does not exceed 10 millirem per hour.

(3) The radiation dose rate at any point on the external surface of the outside of the package may not exceed 0.5 millirem per hour. However, for exclusive use shipments only, the radiation at the external surface of the package or the item may exceed 0.5 millirem per hour, but must not exceed 2 millirem per hour.

(4) There must be no significant removable radioactive surface contamination on the exterior of the package (see § 173.397).

(5) The total radioactivity content of a package containing radioactive devices must not exceed the quantities shown in the following table:

Transport group	Quantity in curies	
	Per device	Per package
I	0.0001	0.001
II	0.001	0.05
III	0.01	3
IV	0.05	3
V or VI	1	1
VII	25	200
Special form	0.05	20

(6) No package may contain more than 15 grams of fissile material.

(c) A manufactured article, other than a reactor fuel element, in which the only radioactive material is metallic natural or depleted uranium or natural thorium or alloys thereof, is excepted from specification packaging, marking, and labeling, and is excepted from the provisions of § 173.393, if the following conditions are met:

(1) The radiation dose rate at any point on the external surface of the outside container does not exceed 0.5 millirem per hour:

(2) There must be no significant radioactive surface contamination on the exterior of the package. To determine whether "significant," the standard in § 173.397 must be used.

(3) The total radioactivity content of each article must not exceed 3 curies.

(4) The outer surface of the uranium or thorium is enclosed in a non-radioactive, sealed, metallic sheath.

NOTE: Such articles may be packagings for the transportation of radioactive materials.

(d) Shipments made under this section for transportation are not subject to Subpart F of Part 172 of this subchapter, to Part 174 of this subchapter except § 174.24 and to Part 177 of this subchapter except § 177.817.

[Amdt. 173-3, 33 FR 14925, Oct. 4, 1968, as amended by Amdt. 173-90, 39 FR 45241, Dec. 31, 1974 Amdt. 173-94, 41 FR 16086, Apr. 15, 1976; Amdt. 173-94A, 41 FR 40684, Sept. 20, 1976]

§ 173.392 Low specific activity radioactive material.

(a) Low specific activity (LSA) radioactive materials, other than materials consigned as exclusive use, are exempt from the provisions of § 173.393(a) through (e) and (g). However, they must be packaged in accordance with the requirements of § 173.395 and must be marked and labeled as required in §§ 173.401 and 173.402.

(b) LSA radioactive materials which are transported in a transport vehicle (except aircraft) and consigned as exclusive use are exempt from specification packaging, marking, and labeling, provided the shipment meets the requirements of paragraph (c) or (d) of this section.

(c) Packaged shipments of low specific activity materials transported in transport vehicles (except aircraft) assigned for the sole use of that consignor must comply with the following:

(1) Materials must be packaged in strong, tight packages so that there will be no leakage of radioactive material under conditions normally incident to transportation.

(2) Packages must not have any significant removable surface contamination (see § 173.397).

(3) External radiation levels must comply with § 173.393(j).

(4) Shipments must be loaded by consignor and unloaded by consignee from the transport vehicle in which originally loaded.

(5) There must be no loose radioactive material in the car or vehicle.

(6) Shipment must be braced so as to prevent leakage or shift of lading under conditions normally incident to transportation.

(7) Except for shipments of uranium or thorium ores, unconcentrated, the transport vehicle must be placarded with the placards prescribed in accordance with § 174.541(b) or § 177.823 of this subchapter, as appropriate.

(8) The outside of each outside package must be stencilled or otherwise marked "Radioactive—LSA."

(9) Specific instructions for maintenance of exclusive use (sole use) shipment controls must be provided by the shipper to the carrier. Such instructions must be included with the shipping paper information.

(d) Unpackaged (bulk) shipments of low specific activity materials transported in closed transport vehicles (except aircraft) assigned for the sole use of that consignor must comply with the following:

(1) Authorized materials are limited to the following:

(i) Uranium or thorium ores and physical or chemical concentrates of those ores.

(ii) Uranium metal or natural thorium metal, or alloys of these materials; or

(iii) Materials of low radioactive concentration, if the average estimated radioactivity concentration does not exceed 0.001 millicurie per gram and the contribution from Group I material does not exceed one percent of the total radioactivity.

(iv) Objects of nonradioactive material externally contaminated with radioactive material, if the radioactive material is not readily dispersible and the surface contamination, when averaged over one square meter, does not exceed 0.0001 millicurie per square centimeter of Group I radionuclides or 0.001 millicurie per square centimeter of other radionuclides. Such objects must be suitably wrapped or enclosed.

(2) Bulk liquids must be transported in the following:

(i) Specification 103CW, 111A60W7 (§§ 179.200, 179.201, 179.202 of this subchapter) tank cars. Bottom openings in tanks prohibited.

(ii) Spec. MC 310, MC 311, MC 312, or MC 331 (§ 178.330, § 178.331, § 178.337, or § 178.343 of this subchapter) cargo tanks. Authorized only where the radioactivity concentration does not exceed 10 percent of the specified low specific activity levels (see § 173.389(c)). The requirements of § 173.393(g) do not apply to these cargo tanks. Bottom fittings and valves are not authorized. Trailer-on-flat-car service is not authorized.

(3) External radiation levels must comply with subparagraphs (2), (3), and (4) of § 173.393(j).

(4) Shipments must be loaded by the consignor, and unloaded by the consignee from the transport vehicles in which originally loaded.

(5) Except for shipments of uranium or thorium ores, unconcentrated, the transport vehicle must be placarded with the placards prescribed in accordance with § 174.541(b) or § 177.823 of this subchapter, as appropriate.

(6) There must be no leakage of radioactive materials from the vehicle.

(7) Specific instructions for maintenance of exclusive use (sole use) shipment controls must be provided by the shipper to the carrier. Such instructions must be included with the shipping paper information.

[Amdt. 173-3, 33 FR 14925, Oct. 4, 1968; 33 FR 19823, Dec. 27, 1968; Amdt. 173-80, 39 FR 15038, Apr. 30, 1974; Amdt. 173-90, 39 FR 45241, Dec. 31, 1974; Amdt. 173-94, 41 FR 16086, Apr. 15, 1976]

§ 173.393 General packaging and shipment requirements.

(a) Unless otherwise specified, all shipments of radioactive materials must meet all requirements of this section, and must be packaged as prescribed in §§ 173.391 through 173.396.

(b) The outside of each package must incorporate a feature such as a seal, which is not readily breakable and which, while intact, will be evidence that the package has not been illicitly opened.

(c) The smallest outside dimension of any package must be 4 inches or greater.

(d) Each radioactive material must be packaged in a packaging which has been designed to maintain shielding efficiency and leak tightness, so that, under conditions normally incident to transportation, there will be no release of radioactive material. If necessary, additional suitable inside packaging must be used. Each package must be capable of meeting the standards in §§ 173.398(b) and 173.24.

(1) Internal bracing or cushioning, where used, must be adequate to assure that, under the conditions normally incident to transportation, the distance from the inner container or radioactive material to the outside wall of the package remains within the limits for which the package design was based, and the radiation dose rate external to the package does not exceed the transport index number shown on the label. Inner shield closures must be positively secured to prevent loss of the contents.

(e) The packaging must be designed, constructed, and loaded so that during transport:

(1) The heat generated within the package because of the radioactive materials present will not, at any time during transportation, affect the efficiency of the package under the conditions normally incident to transportation, and

(2) The temperature of the accessible external surfaces of the package will not exceed 122° F. in the shade when fully loaded, assuming still air at ambient temperature. If the package is transported in a transport vehicle consigned for the sole use of the consignor, the maximum accessible external surface temperature shall be 180° F.

(f) Pyrophoric materials, in addition to the packaging prescribed in this subpart, must also meet the packaging requirements of § 173.134 or § 173.154. Pyrophoric radioactive liquids may not be shipped by air.

(g) Liquid radioactive material in Type A quantities must be packaged in or within a leak-resistant and corrosion-resistant inner containment vessel. In addition:

(1) The packaging must be adequate to prevent loss or dispersal of the radioactive contents from the inner containment vessel if the package were subjected to the 9 meter (30-foot) drop test prescribed in § 173.398(c)(2)(i); and either

(2) Enough absorbent material must be provided to absorb at least twice the volume of radioactive liquid contents. The absorbent material may be located outside the radiation shield only if it can be shown that if the radioactive liquid contents were taken up by the absorbent material the resultant dose rate at the surface of the package would not exceed 1,000 millirem per hour; or

(3) A secondary leak-resistant and corrosion-resistant containment vessel must be provided to retain the radioactive contents under the normal conditions of transport as prescribed in § 173.398(b), assuming the failure of the inner primary containment vessel.

(h) There must be no significant removable radioactive surface contamination on the exterior of the package (see § 173.397).

(i) Except for shipments described in paragraph (j) of this section, all radioactive materials must be packaged in suitable packaging (shielded, if necessary) so that at any time during the normal conditions incident to transportation the radiation dose rate does not exceed 200 millirem per hour at any point on the external surface of the package, and the transport index does not exceed 10.

(j) Packages for which the radiation dose rate exceeds the limits specified in paragraph (i) of this section, but does not exceed at any time during transportation any of the limits specified in paragraphs (j) (1) through (4) of this section may be transported in a transport vehicle which has been consigned as exclusive use (except aircraft). Specific instructions for maintenance of the exclusive use (sole use) shipment controls must be provided by the shipper to the carrier. Such instructions must be included with the shipping paper information:

(1) 1,000 millirem per hour at 3 feet from the external surface of the package (closed transport vehicle only);

(2) 200 millirem per hour at any point on the external surface of the car or vehicle (closed transport vehicle only);

(3) Ten millirem per hour at any point 2 meters (six feet) from the vertical planes projected by the outer lateral surface of the car or vehicle; or if the load is transported in an open transport vehicle, at any point 2 meters (six feet) from the vertical planes projected from the outer edges of the vehicle.

(4) 2 millirem per hour in any normally occupied position in the car or vehicle, except that this provision does not apply to private motor carriers.

(k) [Reserved]

(l) Packages consigned for export are also subject to the regulations of the foreign governments involved in the shipment. See §§ 173.8, 173.9, and 173.393b. (The regulations of the International Atomic Energy Agency (IAEA) are used by most foreign governments.)

(m) Prior to the first shipment of any package, the shipper shall determine by examination or appropriate test that:

(1) The packaging meets the specified quality of design and construction; and

(2) The effectiveness of the shielding and containment, and, where necessary, the heat transfer characteristics of the package are within the limits applicable to or specified for the package design.

(n) Prior to each shipment of any package, the shipper shall insure by examination or appropriate test that:

(1) The package is proper for the contents to be shipped;

(2) The packaging is in unimpaired physical condition except for superficial marks;

(3) Each closure device of the packaging, including any required gasket, is properly installed and secured and free of defects;

(4) For a fissile material, any moderator and neutron absorber, if required, is present in proper condition;

(5) Any special instructions for filling, closing, and preparation of the package for shipment have been followed;

(6) Each closure, valve, and any other opening of the containment system through which the radioactive content might escape is properly closed and sealed;

(7) Each package containing liquid in excess of a Type A quantity and destined for air shipment is tested to demonstrate that it is leak tight under an ambient atmospheric pressure differential of at least 0.5 atmosphere (absolute) (7.3 p.s.i.a. or 0.5 kg./cm.^{2}); the test may be conducted on the entire containment system or on any receptacle or vessel within the containment system, as appropriate to determine compliance with the requirement;

(8) If the maximum normal operating pressure of a package is likely to exceed 0.35 kg./cm.^{2} (gage), the internal pressure of the containment system will not exceed the design pressure during transportation; and

(9) External radiation and contamination levels are within the allowable limits.

(o) No person may offer for transportation a package of radioactive materials until the temperature of the packaging system has reached equilibrium (see also paragraph (e) of this section) unless, for the specific contents, he has ascertained that the maximum applicable surface temperature limits cannot be exceeded.

(p) No person may offer for transportation aboard a passenger carrying aircraft any radioactive material unless that material is intended for use in, or incident to, research, or medical diagnosis or treatment, or is excepted under the provisions of § 175.10 of this subchapter.

[Amdt. 173–3, 33 FR 14926, Oct. 4, 1968, as amended by Amdt. 173–6, 34 FR 7162, May 1, 1969; Amdt. No. 173–66, FR 17970, Sept. 2, 1972; Amdt. 173–90, 39 FR 45241, Dec. 31, 1974; Amdt. 173–94A, 41 FR 40684, Sept. 20, 1976]

§ 173.393a U.S. Atomic Energy Commission approved packages; standard requirements and conditions.

(a) In addition to the applicable requirements of the USAEC approval and Parts 170–189 of this subchapter, each shipper of a package containing radioactive material, which has been approved by the U.S. Atomic Energy Commission in accordance with § 173.394(b) (3), (c)(2), § 173.395(b)(2), (c)(2), § 173.396(b)(4), or § 173.396(c)(3), also shall comply with the following:

(1) Before the first shipment in a package approved by the U.S. Atomic Energy Commission for use by another person, each shipper shall register in writing with the USAEC, Division of Materials Licensing, his name and address, the name of the person to whom the USAEC approval was issued, and the approval number assigned to the package. Each shipper shall have a copy of the USAEC approval and the document referred to in the approval in his possession. Each shipment must be made in compliance with the terms and conditions of the approval;

(2) The outside of each package must be durably and legibly marked with the package identification marking indicated in the USAEC approval;

(3) Each shipping paper related to the shipment of this package must bear a notation of the package identification marking indicated in the USAEC approval;

(4) Before the first export shipment of the package, the shipper shall submit a copy of the applicable competent authority certificate applying to that package design to the competent national authority of each country into or through which the package will be transported, unless a copy has already been furnished to this party by another person. (Detailed requirements for the issuance and content of competent authority certificates are provided in marginal C–6 of the IAEA "Regulations for the Safe Transport of Radioactive Materials, safety series No. 6, 1967 edition," hereinafter referred to as the "IAEA Regulations." A list of the national competent authorities of each country is published annually by the IAEA.);

(5) Each package of fissile radioactive material must be marked with the numerical value for the transport index if the shipment is fissile class II. Any vehicle limitation indicated in the USAEC approval applies if the shipment is fissile class III; and

(6) For a fissile class III shipment the statement prescribed in § 173.427(a)(5)(v) must be included with the shipping papers.

[Amdt. 173–69, 38 FR 4398, Feb. 14, 1973]

§ 173.393b International shipments and foreign-made packages; standard requirements and conditions.

(a) In addition to the other applicable requirements of Parts 170–189 of this subchapter, each shipper of a package containing radioactive material, for which a foreign competent authority certificate has been issued and revalidated pursuant to the IAEA regulations and § 173.394(b)(4), § 173.394(c)(3), § 173.395(b)(3), § 173.395(c)(3), § 173.396(b)(5), or § 173.396(c)(4), also shall comply with the following:

(1) Before the first shipment of the package, each shipper shall register in writing his identity and type of package with the Office of Hazardous Materials, U.S. Department of Transportation, Washington, D.C. 20590, furnishing a copy of the foreign certificate or revalidation thereof which is applicable to that package, unless a copy has already been furnished by another person;

(2) The outside of each package must be durably and legibly marked with the competent authority identification marking indicated on the certificate or revalidation;

(3) Each shipping paper related to the shipment of the package must bear a notation of the package identification marking indicated in the certificate or revalidation;

(4) Before the first export shipment of the package, the shipper shall furnish a copy of the applicable competent au-

thority certificate applying to that package design and any required revalidation, to the competent national authority of each country through or into which the package will be transported, unless a copy has already been furnished by another person;

(5) The applicable competent authority certificates need not accompany the packages to which they relate. However, the shipper shall supply them to the carrier upon request; and

(6) For a fissile class III shipment, the statement prescribed in § 173.427(a)(5)(v) must be included with the shipping papers.

(b) The designated competent authority in the USA responsible for administering the requirements (Marginal C-6) of the International Atomic Energy Agency's (IAEA) "Regulations for the Safe Transport of Radioactive Materials," Safety Series No. 6, 1967 Edition, is:

Office of Hazardous Materials, U.S. Department of Transportation, Washington, D.C. 20590.

(c) Any request for a competent authority certificate required by the IAEA regulations must be submitted in writing to the address given in paragraph (b) of this section. This request should be in duplicate and must contain all the information required by the applicable subsection of Marginal C-6 of the IAEA regulations. Unless there is good reason for priority treatment, each request will be considered in the order in which it is received. To permit timely consideration, requests should be submitted at least 45 days prior to the requested effective date.

[Amdt. 173-69, 38 FR 4398, Feb. 14, 1973]

§ 173.394 Radioactive material in special form.

(a) In addition to the applicable requirements of §§ 173.24 and 173.393, a Type A quantity of special form radioactive material must be packaged as follows:

(1) Specification 7A (§ 178.350 of this subchapter) Type A general packaging. Each shipper of a Specification 7A packaging must maintain on file for at least one year after the latest shipment, and be prepared to provide the Department, a complete certification and supporting safety analysis demonstrating that the construction methods, packaging design, and materials of construction are in compliance with the specification. This requirement is effective December 31, 1975.

(2) Specification 55 (§ 178.250 of this subchapter) metal encased shielded container. Use of existing container authorized; construction not authorized after March 31, 1975.

(3) Any Type B packaging pursuant to paragraph (b) of this section.

(4) Foreign-made packagings which bear the marking "TYPE A."

(b) Type B quantities of special form radioactive materials must be packaged as follows:

(1) Specification 55 metal encased shielded container. Authorized only for domestic shipments of not more than 300 curies per package. Use of existing container authorized; construction not authorized after March 31, 1975.

(2) Specification 6M (§ 178.104 of this subchapter) metal packaging.

(3) Any other Type B packaging approved by the U.S. Atomic Energy Commission.

(4) Any other Type B packaging which meets the pertinent requirements in the 1967 regulations of the International Atomic Energy Agency, and for which the foreign competent authority certificate has been revalidated by the Department.

(5) Specification 20WC (§ 178.194 of this subchapter) wooden outer protective jacket, with a single snug-fitting inner Type A packaging which has a metal outer wall and conforms to § 178.350 of this subchapter or Specification 55. Only use of existing specification 55 container authorized; construction not authorized after March 31, 1975.

(6) Specification 21WC (§ 178.195 of this subchapter) wooden-steel protective overpack, with a single inner specification 2R (§ 178.34 of this subchapter) or specification 55, inner packaging. Only use of existing specification 55 container authorized; construction not authorized after March 31, 1975. Contents must be loaded within the inner packaging to preclude loose movement during transportation. The inner packaging must be securely positioned and centered within the overpack by solid cushioning materials so that there would be no significant displacement of the inner packaging if the packaging were subjected to the 9 meter (30-foot) drop test described in § 173.398(c)(1).

(c) Large quantities of radioactive materials in special form must be packaged as follows:

(1) Spec. 6M (§ 178.104 of this subchapter) metal packaging. Radioactive thermal decay energy must not exceed to watts.

(2) Any other Type B packaging which meets the pertinent requirements for large quantities of radioactive materials in the regulations of the U.S. Atomic Energy Commission (10 CFR Part 71) and is approved by the U.S. Atomic Energy Commission.

(3) Any other Type B packaging which meets the pertinent requirements for large quantities of radioactive materials in the 1967 regulations of the International Atomic Energy Agency, and for which the foreign competent authority certificate has been revalidated by the Department.

(4) Specifications 20WC (§ 178.194 of this subchapter) wooden outer protective jacket, with a single, snug-fitting specification 55 inner packaging. Only use of existing specification 55 container authorized; construction not authorized after March 31, 1975. Radioactive thermal decay energy must not exceed 100 watts.

[Amdt. 173-1, 33 FR 14927, Oct. 4, 1968, as amended by Amdt. 173-34, 35 FR 13836, Sept. 1, 1970; Amdt. 173-69, 38 FR 4398, Feb. 14, 1973; Amdt. 173-90, 39 FR 45241, Dec. 31, 1974; Amdt. 173-90, 40 FR 2435, Jan. 13, 1975; Amdt. 173-94, 41 FR 16086, Apr. 15, 1976]

§ 173.395 Radioactive material in normal form.

(a) In addition to the applicable requirements of §§ 173.24 and 173.393, a Type A quantity of normal form radioactive material must be packaged as follows:

(1) Specification 7A (§ 178.350 of this subchapter) Type A general packaging. Each shipper of a specification 7A packaging must maintain on file for at least one year after the latest shipment, and be prepared to provide the Department, a complete certification and supporting safety analysis demonstrating that the construction methods, packaging design, and materials of construction are in compliance with the specification. This requirement is effective December 31, 1975.

(2) Specification 55 metal encased shielded container. Use of existing container authorized; construction not authorized after March 31, 1975. For liquid contents the provisions of § 173.393(g) must also be met.

(3) Any Type B packaging pursuant to paragraph (b) of this section.

(4) Foreign-made packagings which bear the marking "TYPE A."

(b) Type B quantities of radioactive materials in normal form must be packaged as follows:

(1) Spec. 6M (§ 178.104 of this subchapter metal packaging. Authorized only for solid or gaseous radioactive materials which will not decompose at temperatures up to 250° F.

(2) Any other Type B packaging approved by the U.S. Atomic Energy Commission.

(3) Any other Type B packaging which meets the pertinent requirements in the 1967 regulations of the International Atomic Energy Agency, and for which the foreign competent authority certificate has been revalidated by the Department.

(4) Specification 20WC (§ 178.194 of this subchapter) wooden outer protective jacket, when used with a single, snug-fitting inner specification 2R (§ 178.34 of this subchapter) or specification 55 inner packaging. Only use of existing specification 55 container authorized; construction not authorized after March 31, 1975. For liquid contents the provisions of § 173.393(g) must also be met, with respect to the inner packaging.

(c) Large quantities of radioactive materials in normal form must be packaged as follows:

(1) Spec. 6M (§ 178.104 of this chapter) metal packaging. Authorized only for solid or gaseous radioactive materials which will not decompose at temperatures up to 250° F. Radioactive thermal decay energy must not exceed 10 watts.

(2) Any other Type B packaging for large quantities of radioactive materials which meets the pertinent requirements in the regulations of the U.S. Atomic Energy Commission (10 CFR Part 71) and is approved by the U.S. Atomic Energy Commission.

(3) Any other Type B packaging which meets the pertinent requirements for large quantities of radioactive materials in the 1967 regulations of the International Atomic Energy Agency, and for which the foreign competent authority certificate has been revalidated by the Department.

[Amdt. 173-3, 33 FR 14927, Oct. 4, 1968, as amended by Amdt. 173-69, 38 FR 4398, Feb. 14, 1973; Amdt. 173-90, 39 FR 45242, Dec. 31, 1974; 40 FR 2435, Jan. 13, 1975; Amdt. 173-94, 41 FR 16086, Apr. 15, 1976]

§ 173.396 Fissile radioactive material.

(a) The following materials are not classified as fissile radioactive materials, are exempted from this section, and must instead be packaged in accordance with the other provisions of this subpart, as appropriate:

(1) Not more than 15 grams of fissile material;

(2) Thorium, or uranium containing not more than 0.72 percent by weight of fissile material;

(3) Uranium compounds other than metal (e.g., UF_4, UF_6, or uranium oxide in bulk form, not pelleted or fabricated into shapes), and aqueous solutions of uranium, in which the total amount of uranium-233 and plutonium present does not exceed 1.0 percent by weight of the uranium-235 content, and the total fissile content does not exceed 1.00 percent by weight of the total uranium content;

(4) Homogenous hydrogenous solutions or mixtures containing not more than:

(i) 500 grams of any fissile material, provided the atomic ratio of hydrogen to fissile material is greater than 7,600; or

(ii) 800 grams of uranium-235, if the atomic ratio of hydrogen to fissile material is greater than 5,200, and the content of other fissile material is not more than 1.0 percent by weight of the total uranium-235 content; or

(iii) 500 grams of uranium-233 and uranium-235, if the atomic ratio of hydrogen to fissile material is greater than 5,200, and the content of plutonium is not more than 1.0 percent by weight of the total uranium-233 and uranium-235 content.

(5) A package containing less than 350 grams of fissile material, if there is not more than 5 grams of fissile material in any cubic foot within the package.

(b) Fissile radioactive materials containing not more than Type A quantities of radionuclides, in either normal form or special form, must be packaged as follows:

(1) Specification 6L (§ 178.103 of this subchapter) metal packaging. See paragraph (c)(1) of this section for authorized contents.

(2) Spec. 6M (§ 178.104 of this subchapter) metal packaging. See paragraph (c)(2) of this section for authorized contents.

(3) Any packaging listed in § 173.395(a). Authorized only for not more than the following:

(i) 500 grams of uranium-235 as Fissile Class III, or not more than 40 grams of uranium-235 as Fissile Class II. For Fissile Class II shipments, the transport index to be assigned to each package shall be 0.4 for each gram of uranium-235 above 15 grams up to a maximum of 40 grams (transport index of 10).

(ii) 320 grams of plutonium-239 as plutonium-beryllium neutron sources in special form. Total radioactivity content must not exceed 20 curies. The transport index to be assigned to each package shall be 0.5 for each 20 grams, or fraction thereof, of fissile plutonium.

(4) Any other Type A or B packaging for fissile radioactive materials which also meets the pertinent standards for packaging in the regulations of the U.S. Atomic Energy Commission (10 CFR Part 71), and is approved by the U.S. Atomic Energy Commission.

(5) Any other Type A or B packaging for fissile radioactive materials which also meets the pertinent requirements in the 1967 regulations of the International Atomic Energy Agency, and for which the foreign competent authority certificate has been revalidated by the Department.

(6) Specification 20PF-1, 20PF-2, or 20PF-3 (§ 178.120 of this subchapter) or specification 21PF-1 or 2 (§ 178.121 of this subchapter) phenolic-foam insulated protective overpacks, with snug-fitting inner metal cylinders meeting all of the applicable requirements of §§ 173.24, 173.393, and 173.398(b). Handling procedures and packaging criteria must be in accordance with USAEC Report No. ORO-651 or ANSI Standard N-14.1-1971. Quantities of uranium hexafluoride are authorized as follows, with each package to be shipped as fissile Class II, and assigned a minimum transport index as indicated:

Protective overpack specification No.	Maximum inner cylinder diameter		Maximum weight of UF_6 contents		Maximum U^{235} enrichment (w/o)	Fissile class II transport index
	Inches	Centimeter	Pounds	Kilograms		
20PF-1	5	12.7	55	25	100	0.1
20PF-2	8	20.3	255	116	12.5	.4
20PF-3	12	30.5	460	209	5.0	1.1
21PF-1 [1]	[2] 30	76	4,950	2,247	5.0	5.0
	[3] 30	76	5,020	2,279	5.0	5.0
21PF-2 [1]	[2] 30	76	4,950	2,247	5.0	5.0
	[3] 30	76	5,020	2,279	5.0	5.0

[1] For 30-in cylinders, the maximum H/U atomic ratio is 0.088.

[2] Model 30A inner cylinder (Reference: ORO-651).

[3] Model 30B inner cylinder (Reference: ORO-651).

(7) A DOT Specification 6J (§ 178.100 of this subchapter) or 17H (§ 178.118 of this subchapter) 55-gallon steel drum, for transport of not more than 350 grams of uranium-235 in any non-pyrophoric form, enriched to any degree in the U-235 isotope. Each drum must have a minimum 18-gauge body and bottom head and 16-gauge removable top head, with one or more corrugations in the cover near the periphery. Closure must conform to § 178.103-5(a) of this subchapter. At least four 1.2 centimeter (0.5 inch) diameter vent holes must be provided, equally spaced on the sides of the drum near the top, each covered with weatherproof tape, or equivalent device. Appropriate primary inner containment of the contents and any necessary packing material must be provided, such as plastic or metal jars or cans or plastic wrapping, such that Spec. 7A (§ 178.350 of this subchapter) provisions are satisfied. Each inner containment vessel must be capable of venting in the event the package was exposed to the thermal test described in (§ 173.398(c)(2)(iii)). Additionally, liquid contents must be packaged in accordance with § 173.393(g). The maximum weight of contents, including internal packing must not exceed 91 kilograms (200 pounds) with fissile material content limited as follows:

Maximum U^{235} per package (grams)	Minimum transport index per package as fissile class II	Maximum packages per transport vehicle as fissile class III
350	1.8	72
300	1.0	129
250	0.5	256
200	0.3	500
150	0.1	500
100	0.1	500
50	(1)	(1)

(1) Fissile class I.

(8) Any metal cylinder which meets the performance requirements for a specification 7A Type A packaging (see §§ 173.395(a)(1) and 178.350 of this subchapter) for the transport of residual "heels" of enriched solid uranium hexafluoride without a protective overpack, are authorized as Fissile Class I packages, in accordance with the following:

Maximum cylinder diameter		Cylinder volume		Maximum U^{235} enrichment (weight percent)	Maximum "heel" weight per cylinder UF6 (U^{235})		
Inches	Centimeters	Cubic feet	Liters		Pounds	Kilograms	Kilograms
5	12.7	0.311	8.8	100.0	0.1	0.0[illegible]	0.031
8	20.3	1.359	39	12.5	.5	.227	.019
12	30.5	2.410	68	5.0	1.0	.454	.015
30	76	25.64	725	5.0	25.0	11.35	.383

(c) Fissile radioactive materials containing Type B quantities of radionuclides, in either normal form or special form, must be packaged as follows:

(1) Specification 6L (§ 178.103 of this subchapter) metal packaging. Authorized only for uranium-235, plutonium-239 or 241, as metal, oxide, or compounds

which will not decompose at temperatures up to 149°C (300° F.) Radioactive thermal decay energy output shall not exceed 5 watts. Large quantity radioactive materials in normal form must be packaged in one or more sealed and leak tight metal cans or polyethylene bottles within the Spec. 2R containment vessel.

(i) *Fissile Class II and III packages.* The following quantities of fissile radioactive materials are authorized under the Fissile Class II and III conditions listed:

TABLE OF AUTHORIZED CONTENTS[1]

Uranium-235[2]		Plutonium[2 4]		Fissile class II transport index	Fissile class III maximum number of packages per transport vehicle
H/X≤3	3<H/X≤20	H/X≤10	10≤H/X≤20		
14	[3]3.6			1.3	80
		2.5	2.4	1.8	55

[1] Quantity in kilograms.

[2] All sources of hydrogen within the inner containment vessel must be considered in determining the H/X ratio of inner containment vessel.

[3] Volume not to exceed 3.6 liter.

[4] Plutonium solutions are not authorized.

(2) Spec. 6M (§ 178.104 of this subchapter) metal packaging. Authorized only for solid radioactive materials which will not decompose at temperatures up to 250° F. Radioactive thermal decay energy output shall not exceed 10 watts. Large quantity radioactive materials in normal form must be packaged in one or more sealed and leaktight metal cans or polyethylene bottles within the Spec. 2R containment vessel.

(i) *Fissile Class I packages.* The following quantities of fissile radioactive material are authorized for Fissile Class I packages: 1.6 kilograms uranium-235; 0.9 kilograms of plutonium (see Note); 0.5 kilograms of uranium-233. The maximum ratio of hydrogen to fissile material must not exceed three, all sources of hydrogen within the Spec. 2R containment vessel being considered.

NOTE: Because of the 10-watt thermal decay heat limitation, the limit for plutonium-238 is only 0.02 kilograms.

(ii) *Fissile Class II and III packages.* Quantities of fissile radioactive material as shown in the following table are authorized for a Fissile Class II and Fissile Class III package. Where a maximum ratio of hydrogen to fissile material is specified in the table, only the hydrogen interspersed with the fissile material need be considered. For a Fissile Class II package, the minimum transport index to be assigned is shown in the following table. For a Fissile Class III package, the maximum number of similar packages per transport vehicle is shown. Each Fissile Class III shipment is also subject to paragraph (g) of this section. For a uranium-233 shipment, the maximum inside diameter of the inner containment vessel must not exceed 12 centimeters (4.75 inches). Where necessary, a tight fitting steel insert must be used to reduce a larger diameter inner containment vessel specified in § 178.104–3(b) of this subchapter to the 12 centimeters (4.75 inches) limit.

Table of authorized contents[1]

Uranium-233[5]			Uranium-235[4 7]			Plutonium[2 3 4]			Fissile class II transport index	Fissile class III maximum number of packages per transport vehicle
Metal or alloy H/X=0	Compounds		Metal or alloy H/X=0	Compounds		Metal or alloy H/X=0	Compounds			
	H/X=0	H/X 3		H/X=0	H/X≤3		H/X=0	H/X≤3		
3.6	4.4	2.9	7.2	7.6	5.3	3.1	4.1	3.4	0.1	1,250
[6]4.2	5.2	3.5	8.7	9.6	6.4	3.4	4.5	4.1	.2	625
[6]5.2	6.8	4.5	11.2	13.9	8.3	4.2		4.5	.5	250
			13.5	16.0	10.1	4.5			1.0	125
				26.0	16.1				5.0	25
				32.0	19.5				10.0	12

[1] Quantity in kilograms.

[2] Minimum percentage of plutonium-240 is 5 weight percent.

[3] 4.5 kg limitation of plutonium due to 10 watt decay heat limitation.

[4] For a mixture of uranium-235 and plutonium an equal amount of uranium-235 may be substituted for any portion of plutonium authorized.

[5] Maximum inside diameter not to exceed 12 cm (4.75 in) (see par. (c)(2)(ii) of this section).

[6] Granulated or powdered metal with any particle less than 8 mm (0.25-in) in the smallest dimension is not authorized.

[7] Maximum uranium-235 enrichment is 93 percent.

(3) Any other Type B packaging which also meets the standards for packaging for fissile radioactive materials in the regulations of the U.S. Atomic Energy Commission (10 CFR Part 71), and is approved by the U.S. Atomic Energy Commission.

(4) Any other Type B packaging which also meets the pertinent requirements for fissile radioactive materials in the 1967 regulations of the International Atomic Energy Agency, and for which the foreign competent authority certificate has been revalidated by the Department.

(5) Specification 20PF–1 through 3 (§ 178.120 of this subchapter) or Specification 21PF–1 or 2 (§ 178.121 of this subchapter) phenolic-foam insulated protective overpacks. (See paragraph (b)(6) of this section for authorized use.)

(d) [Reserved]

(e) Mixing of packages of other types of radioactive materials, including Fissile Class I, with Fissile Class II packages is permitted if the total transport index in any one transport vehicle or storage location does not exceed 50.

(f) For Fissile Class II packages shipped under the exclusive use provisions of § 173.393(j) to provide for packages with high radiation dose rates, the transport index number which is calculated for nuclear criticality control purposes must not exceed 10 for any single package or a total of 50 for the full load, unless specifically authorized by the Department for Fissile Class III shipments.

(1) Fissile Class II packages may be shipped with a transport index greater than 10, and combined with other packages of the same or different designs in a Fissile Class III shipment, under the conditions prescribed in paragraph (g) of this section, *Provided:*

(i) The transport index which has been assigned in the package approval for nuclear criticality control purposes does not exceed 10 for any single package;

(ii) The total transport index for nuclear criticality control purposes for all packages in the shipment does not exceed 100;

(iii) The shipment satisfies the provisions of § 173.393(j) if any package has radiation dose rates exceeding 10 millirem per hour at 1 meter (three feet) from any accessible external surface of the package; and

(iv) The shipment will not be transported by water,

(2) Fissile Class III packages, which have been assigned a transport index for nuclear criticality control purposes in accordance with Fissile Class II criteria, may be combined with other Fissile Class III packages of the same or different design for which a transport index has been so assigned for nuclear criticality control purposes, and may be combined with Fissile Class II packages, in a Fissile Class III shipment under the conditions prescribed in paragraph (g) of this section, *Provided:*

(i) The transport index which has been assigned in the package approval for nuclear criticality control purposes does not exceed 50 for any single package;

(ii) The total transport index for nuclear criticality control purposes for all packages in the shipment does not exceed 100;

(iii) The shipment satisfies the provisions of § 173.393(j) if any package has radiation dose rates exceeding 10 millirem per hour at 1 meter (three feet) from any accessible external surface of the package; and

(iv) The shipment will not be transported by water.

(g) A fissile class III shipment may be made only in accordance with subparagraphs (1), (2), or (3) of this paragraph, or in accordance with other procedures authorized by the Department. The transport controls must provide nuclear criticality safety and must be carried out by the shipper or carrier, as appropriate, to protect against loading, storing, or transporting of that shipment together with any other fissile material.

(1) Transportation in a transport vehicle assigned for the sole use of that consignor, with a specific restriction for such sole use to be provided in the special arrangements, and with instructions to that effect issued with the shipping papers; or

(2) Except for shipments by aircraft, transportation under escort by person in a separate vehicle, with the escort having the capability, equipment, authority, and instructions to provide administrative controls adequate to assure compliance with this paragraph; or

(3) Transportation in a transport vehicle containing no other packages of radioactive material which are required to bear one of the "Radioactive" labels described in § 173.416. Specific arrangements must be effected between shipper and carrier, with instructions to that effect issued with the shipping papers.

(h) The numerical values for package assignments as fissile class I, the transport indices for fissile class II packages, and the vehicle limitations for fissile class III packages must be determined in accordance with §§ 71.36 through 71.40 of Title 10 of the Code of Federal Regulations.

[Amdt. 173-3, 33 FR 14927, Oct. 4, 1968; 33 FR 19823, Dec. 27, 1968, as amended by Amdt. 173-14, 34 FR 17523, Oct. 30, 1969; Amdt. 173-69; 38 FR 4398, Feb. 14, 1973; Amdt. 173-70, 38 FR 5309, Feb. 27, 1973; Amdt. 173-90, 39 FR 45242, Dec. 31, 1974; 40 FR 2435, Jan. 13, 1975; Amdt. 173-90, 40 FR 44327, Sept. 26, 1975; Amdt. 173-94, 41 FR 16086, Apr. 15, 1976]

§ 173.397 Contamination control.

(a) Removable (non-fixed) radioactive contamination is considered significant if the level of contamination, when averaged over any area of 300 square centimeters of any part of the package surface, exceeds any of the following:

Contaminant	Maximum permissible level	
	uCi/Cm²	dis/min/Cm²
Natural or depleted uranium and natural thorium:		
Beta-gamma	10^{-3}	2200
Alpha	10^{-4}	220
All other beta-gamma emitting radionuclides	10^{-4}	220
All other alpha emitting radionuclides	10^{-5}	22

(1) In assessing the surface contamination of a package, a sufficient number of measurements must be taken in the most appropriate locations so as to yield a representative assessment of the contamination situation. The average amount of removable (non-fixed) radioactive contamination may be determined by wiping the external surface of the package with an absorbent material, using moderate pressure, and then measuring the activity on the wiping material. If the measured activity per square centimeter does not exceed 10 percent of the levels prescribed above, it may be assumed that those levels have not been exceeded. Other measurement methods of equal or greater efficiency may also be utilized.

(b) When radioactive materials packages are consigned as exclusive use, as defined in § 173.389(o), removable non-fixed) radioactive contamination may not exceed 10 times that as specified in paragraph (a)(1) of this section.

(c) Each transport vehicle used for transporting radioactive materials as exclusive use, as defined in § 173.389(o), must be surveyed with appropriate radiation detection instruments after each use. A vehicle may not be returned to service until the radiation dose rate at any accessible surface is 0.5 millirem per hour or less, and there is no significant removable radioactive surface contamination, as defined in paragraph (a) of this section.

[Amdt. 173-90, 39 FR 45243, Dec. 31, 1974]

§ 173.398 Special tests.

(a) Special form material: To qualify as special form material, the radioactive material must either be in massive solid form or encapsulated. Each item in massive solid form or each capsule must either have no overall dimension less than 0.5 millimeters, or must have at least one dimension greater than 5 millimeters. Each item, or the capsule material, must not dissolve or convert into dispersible form to the extent of more than 0.005 percent, by weight, by immersion for 1 week in water at pH 6-8 and 68° F., and a maximum conductivity of 10 micromhos/centimeter, and by immersion in air at 86° F. If in massive solid form, the radioactive material must not break, crumble, or shatter if subjected to the percussion test prescribed in this section, and must not melt, sublime, or ignite at temperatures below 1,000° F. If encapsulated, the capsule must retain its contents when subjected to all of the performance tests prescribed in this section, and must not melt, sublime, or ignite at temperatures below 1,475° F.

(1) *Free drop.* A free drop through a distance of 30 feet on to a flat essentially unyielding horizontal surface, striking the surface in such a position as to suffer maximum damage.

(2) *Percussion.* Impact of the flat circular end of a one inch diameter steel rod weighing three pounds, dropped through a distance of 40 inches. The capsule or material shall be placed on a sheet of lead, of hardness number 3.5 to 4.5 on the Vickers scale, and not more than one inch thick, supported by a smooth, essentially unyielding surface.

(3) *Heating.* Heating in air to a temperature of 1,475° F. and remaining at that temperature for a period of 10 minutes.

(4) *Immersion.* Immersion for 24 hours in water at room temperature. The water shall be at pH6-pH8, with a maximum conductivity of 10 micromhos/cm.

NOTE 1: Each shipper of special form radioactive material shall maintain on file for at least one year after the last shipment, and be prepared to provide the Department, a complete certification and supporting safety analysis (see Note 2) demonstrating that the special form material meets the requirements of paragraph (a) of this section. This requirement is effective December 31, 1974.

NOTE 2: Prior to the first shipment of a special form radioactive material outside of the United States, each shipper shall obtain a Certificate of Competent Authority for the specific material. Each petition must be submitted in accordance with § 173.393b (b) and (c), and must additionally include the following information:

1. A detailed description of the material, or if a capsule, the contents. Particular reference must be made to both physical and chemical states;

2. A detailed statement of the design of any capsule to be used, including complete engineering drawings and schedules of material, and methods of construction;

3. A statement of the tests which have been done and their results, or evidence based on calculative methods to show that the material is capable of meeting the tests, or other evidence that the special form radioactive material meets the requirements of paragraphs (a)(1) thru (4) of this section.

(b) Standards for Type A packaging:

(1) Type A packaging must be so designed and constructed that, if it were subject to the environmental and test conditions prescribed in this paragraph:

(i) There would be no release of radioactive material from the package;

(ii) The effectiveness of the packaging would not be substantially reduced; and

(iii) There would be no mixture of gases or vapors in the package which could, through any credible increase of pressure or an explosion, significantly reduce the effectiveness of the package.

(2) Environmental conditions:

(i) *Heat.* Direct sunlight at an ambient temperature of 130° F. in still air.

(ii) *Cold.* An ambient temperature of −40° F. in still air and shade.

(iii) *Reduced pressure.* Ambient atmospheric pressure of 0.5 atmosphere (absolute) (7.3 p.s.i.a.).

(iv) *Vibration.* Vibration normally incident to transportation.

(3) Test conditions: The packaging shall be subject to all of the following tests unless specifically exempted therefrom, and also to the consecutive application of at least two of the following tests from which it is not specifically exempted:

(i) *Water spray.* A water spray heavy enough to keep the entire exposed surface of the package except the bottom continuously wet during a period of 30 minutes. Packages for which the outer layer consists entirely of metal, wood, ceramic, or plastic, or combinations thereof, are exempt from the water spray test.

(ii) *Free drop.* Between 1½ to 2½ hours after the conclusion of the water spray test, a free drop through a distance of 4 feet onto a flat essentially unyielding horizontal surface, striking the surface in a position for which maximum damage is expected.

(iii) *Corner drop.* A free drop onto each corner of the package in succession, or in the case of a cylindrical package onto each quarter of each rim, from a height of 1 foot onto a flat essentially unyielding horizontal surface. This test applies only to packages which are constructed primarily of wood or fiberboard, and do not exceed 110 pounds gross weight, and to all Fissile Class II packagings.

(iv) *Penetration.* Impact of the hemispherical end of a vertical steel cylinder 1¼ inches in diameter and weighing 13 pounds, dropped from a height of 40 inches onto the exposed surface of the package which is expected to be most vulnerable to puncture. The long axis of the cylinder shall be perpendicular to the package surface.

(v) *Compression.* For packages not more than 10,000 pounds in weight, a compressive load equal to either five times the weight of the package or 2 pounds per square inch multiplied by the maximum horizontal cross section of the package, whichever is greater. The load shall be applied during a period of 24 hours, uniformly against the top and bottom of the package in the position in which the package would normally be transported.

(c) Standards for hypothetical accident conditions of transportation for Type B packagings:

(1) Type B packaging must meet the applicable Type A packaging standards and must be designed and constructed and its contents so limited that, if subjected to the hypothetical accident conditions prescribed in this paragraph, it will meet the following conditions:

(i) The reduction of shielding would not be enough to increase the radiation dose rate at three feet from the external surface of the package to more than 1,000 millirem per hour.

(ii) No radioactive material would be released from packages containing Type B quantities of radioactive material. The allowable release of radioactivity from packages containing large quantities of radioactive material is limited to gases and contaminated coolant containing total radioactivity exceeding neither 0.1 percent of the total radioactivity of the package contents nor 0.01 curie of Group I radionuclides, 0.5 curie of Group II radionuclides, and 10 curies of Groups III and IV radionuclides, except that for inert gases the limit is 1,000 curies.

(2) Test conditions: The conditions which the package must be capable of withstanding must be applied sequentially, to determine their cumulative effect on a package, in the following order:

(i) *Free drop.* A free drop through a distance of 30 feet onto a flat essentially unyielding horizontal target surface, striking the surface in a position for which maximum damage is expected.

(ii) *Puncture.* A free drop through a distance of 40 inches striking, in a position for which maximum damage is expected, the top end of a vertical cylindrical mild steel bar mounted on an essentially unyielding horizontal surface, the bar shall be 6 inches in diameter, with the top horizontal and its edge rounded to a radius of not more than one-fourth inch, and of such a length as to cause maximum damage to the package, but not less than 8 inches long. The long axis of the bar shall be perpendicular to the unyielding horizontal surface.

(iii) *Thermal.* Exposure to a thermal test in which the heat input to the package is no less than that which would result from exposure of the whole package to a radiation environment of 1,475° F. for 30 minutes with an emissivity coefficient of 0.9, assuming the surfaces of the package have an absorption coefficient of 0.8. The package shall not be cooled artificially until 3 hours after the test period unless it can be shown that the temperature on the inside of the package has begun to fall in less than 3 hours.

(iv) *Water immersion (fissile radioactive materials packages only).* Immersion in water to the extent that all portions of the package to be tested are under at least 3 feet of water for a period of not less than 8 hours.

(d) It is not necessary to actually conduct the tests prescribed in this section if it can be clearly shown, through engineering evaluations or comparative data, that the material or item would be capable of performing satisfactorily under the prescribed test conditions.

[Amdt. 173-3, 33 F.R. 14929, Oct. 4, 1968; 33 F.R. 19823, Dec. 27, 1968 as amended by Amdt. 173-90, 39 FR 45244, Dec. 31, 1974; 40 FR 2435, Jan. 13, 1975]

§ 173.399 [Reserved]

Subpart I—Special Requirements for Certain Rail Shipments or Movements

SOURCE: 29 FR 18767, Dec. 29, 1964, unless otherwise noted. Redesignated at 32 FR 5606, Apr. 5, 1967.

NOTE: The markings prescribed for containers should be as near together as possible.

§§ 173.400–425 [Reserved]

§ 173.426 Cars, truck bodies or trailers containing lading which has been fumigated or treated with flammable liquids flammable gases, poisonous liquids or solids, or poisonous gases.

(a) Delivery of rail cars, freight container, or trailers containing lading, fumigated or treated with flammable liquid or flammable gas for transportation by rail carrier is prohibited until 48 hours have elapsed after such fumigation or treatment, or until cars, truck bodies or trailers have been ventilated so as to remove danger of fire or explosion due to the presence of flammable vapors.

(b) Rail cars, truck bodies or trailers containing lading which has been fumigated or treated with poisonous liquid, solid, or gas, such as carbolic acid, liquid or solid, chlorpicrin, hydrocyanic acid, methyl bromide, etc., must be placarded on each door or near thereto with placard as described below (for cleaning cars see § 174.615 of this subchapter):

(Reduced size)

(Red lettering on white cardboard)

10 inches

DANGER

The lading of this car has been
FUMIGATED or
TREATED
with

(Name of poisonous liquid, solid, or gas)

BEFORE UNLOADING, open both doors and DO NOT ENTER until car is free of gas. REMOVE ALL POISONOUS MATERIAL before release of empty car.

8 inches

[29 FR 18773, Dec. 29, 1964. Redesignated, 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16087, Apr. 15, 1976; Amdt. 173-94A, 41 FR 40684, Sept. 20, 1976]

§§ 173.427–173.431 [Reserved]

§ 173.432 Tank car shipments.

(a) Tank cars containing any flammable gas or flammable liquid, except liquid road asphalt or tar, must not be offered for shipment unless originally consigned or subsequently reconsigned to parties having private-siding (see Note 1 of this section) or to parties using railroad siding facilities which have been equipped for piping the liquid from tank cars to permanent storage tanks of sufficient capacity to receive contents of car.

(b) A tank car containing any compressed gas must not be offered for transportation unless the car is consigned for delivery (see paragraph (c) of this section) and unloading on a private track (see Note 1 of this section), except that where no private track is available, delivery and unloading on carrier tracks is permitted provided the following conditions are complied with:

(1) Any tank car of DOT-106A or 110A type (see §§ 179.300 and 179.301 of this subchapter) may be offered for transportation and the loaded unit tanks may be removed from car frame on carrier tracks, provided the shipper has obtained from the delivering carrier and filed with originating carrier, written permission (see Note 2 of this section) for such removal. The consignee must furnish adequately safe mechanical hoist, obtained from the carrier if desirable, by which the tanks shall be lifted from the car and deposited directly upon vehicles furnished by the consignee for immediate removal from carrier property or tanks must be lifted by adequately safe mechanical hoist from car directly to vessels for further transportation.

(c) Any tank car of other than DOT-106A or 110A type (see §§ 179.300 and 179.301 of this subchapter), containing anhydrous ammonia, liquefied hydrocarbon or liquefied petroleum gas, and having interior pipes of liquid and gas

discharge valves equipped with check valves, may be consigned for delivery and unloading on carrier tracks, if the lading is piped directly from the car to permanent storage tanks of sufficient capacity to receive the entire contents of the car. Such cars may also be consigned for storage on a private track or on a carrier track when designated by the carrier for such storage.

(d) For cars of the DOT-106A or 110A type (see §§ 179.300 and 179.301 of this subchapter), the tanks must be placed in position and attached to the car structure by the shipper.

(e) Flammable liquids and flammable compressed gases may not be loaded into tank cars on carrier property from tank trucks, or drums.

NOTE 1: For this purpose, a private track is a track outside of carrier's right-of-way, yard, and terminals, and of which the carrier does not own either the rails, ties, roadbed or right-of-way; or a track or portion of a track which is devoted to the purpose of its user, either by lease or written agreement; in which case the lease or written agreement will be considered as equivalent to ownership.

NOTE 2: Carriers should give permission for the unloading of these containers on carrier tracks only where no private siding is available within reasonable trucking distance of final destination. The danger involved is the release of compressed gases due to accidental injury to container in handling. The exposure to this danger decreases directly with the isolation of the unloading point.

[29 FR 18773, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 173-94, 41 FR 16087, Apr. 15, 1976, Amdt. 173-94A, 41 FR 40684, Sept. 2, 1976]

APPENDIX A TO PART 173—SPECIFICATIONS FOR COLORS [1]

Specifications for colors (in Munsell notations) on labels and placards are as follows:

Color	Paint, lacquer, enamel and plastic								Printing ink—Centroid
	Centroid	Tolerances							
		Hue		Value		Chroma [2]	Chroma [3]		
		+	−	+	−	+	−	−	
Red	7.5R 4.0/14	8.5R	6.5R	4.5/	3.5/	/16	/12		7.5R 4.3/13.
Orange	5.0YR 6.0/15	6.25YR	3.75YR	6.5/	5.5/	/16	/13		5YR 6.5/14.
Yellow	5.0Y 8.0/12	6.5Y	3.5Y	8.5/	7.5/	/14	/10		5Y 8.2/12.
Green	7.5G 4.0/9	0.5BG	5.0G	4.5/	3.5/	/11	/7	/6	7.5G 4.1/9.
Blue	2.5PB 3.5/10	4.5PB	10.0B	4.0/	3.0/	/12	/8		2.5PB 4.2/10.
Purple	10.0P 4.5/10	2.5RP	7.5P	5.0/	4.0/	/12	/8	/6.5	10P 4.5/12.

NOTE 1: Black and colors on labels and placards must be capable of withstanding a 72-hour fadeometer test, and withstanding open-weather exposure for no less than 30 days without a substantial reduction in effectiveness.

NOTE 2: The maximum chroma is not limited. Colors within the specified hue and value limits may have any saturation above that specified for the chroma minimum, however, chroma at least as strong as the centroid is desired.

NOTE 3: For the colors green and purple, the minimum saturation (chroma) limits for porcelain enamel on metal are lower than for most other surface coatings. Therefore, the minimum chroma limits for porcelain enamel on metal for these 2 colors may be as low as that shown in the chroma double minus column.

NOTE 4: Color chips are available from the National Technical Information Service (NTIS), Springfield, Va. 22151, as set of the 6 colors and prescribed tolerances for $18 per set.

[Amdt. 173-70, 38 FR 5313, Feb. 27, 1973]

Subpart J—Other Regulated Material; Definition and Preparation

SOURCE: Amdt. 173-94, 41 FR 16087, Apr. 15, 1976, unless otherwise noted.

§ 173.500 Definitions.

(a) For the purpose of this subchapter, an Other Regulated Material (ORM) A, B, or C is any material that does not meet the definition of a hazardous material, other than a combustible liquid in packagings having a capacity of 110 gallons or less, and is specified in § 172.101 as an ORM material or that possesses one or more of the characteristics described in the following groups.

NOTE 1: An ORM with a flash point of 100° to 200° F. when transported with more than 110 gallons in one container shall be classed as a combustible liquid.

(1) An ORM-A material is a material which has an anesthetic, irritating, noxious, toxic, or other similar property and which can cause extreme annoyance or discomfort to passengers and crew in the event of leakage during transportation.

(2) An ORM-B material is a material (including a solid when wet with water) capable of causing significant damage to a transport vehicle or vessel from leakage during transportation. Materials meeting one or both of the following criteria are ORM-B materials:

(i) A liquid substance that has a corrosion rate exceeding 0.250 inch per year (IPY) on aluminum (nonclad 7075-T6) at a test temperature of 130° F. An acceptable test is described in NACE Standard TM-01-69.

(ii) Specifically designated by name in § 172.101 of this subchapter.

(3) An ORM-C material is a material which has other inherent characteristics not described as an ORM-A or ORM-B but which make it unsuitable for shipment, unless properly identified and prepared for transportation. Each ORM-C material is specifically named in § 172.101 of this subchapter.

(4) An ORM-D material is a material such as a consumer commodity which, though otherwise subject to the regulations of this subchapter, presents a limited hazard during transportation due to its form, quantity and packaging. They must be materials for which exceptions are provided in § 172.101 of this subchapter. A shipping description applicable to each ORM-D material or category of ORM-D materials is found in § 172.101 of this subchapter.

§ 173.505 Exceptions for Other Regulated Material (ORM).

(a) The following ORM materials, unless otherwise provided in § 172.101 of this subchapter, are not subject to the requirements of this subchapter, except §§ 173.6 and 173.24 and Subparts C and D of Part 172, when packages as follows:

(1) ORM—A, B, or C liquid, not over one pint in one packaging;

(2) ORM—A or B solid, not over five pounds in one packaging;

(3) ORM—C solid, not over twenty-five pounds in one packaging.

§ 173.510 General packaging requirements.

(a) Except as provided in § 173.505, ORM materials must be prepared for shipment in compliance with the following:

(1) Each material must be offered for transportation and transported in compliance with Subparts B, C, and D of Part 172 of this subchapter and Subpart A of Part 173.

(2) For packagings of 110 gallon capacity or less, sufficient outage (ullage) must be provided so the packaging will not be liquid full at 130° F. (55° C.).

(3) When a liquid or solid has an absolute vapor pressure exceeding 16 p.s.i. at 100° F. (38° C.), the primary packaging must be capable of withstanding the inside vapor pressure at 130° F. without leakage.

(4) Any material classed as an ORM material, which may cause a hazard in transportation due to its reaction with water, must be packaged with either an inner or outer water proof packaging.

Subpart K—Other Regulated Material; ORM-A

SOURCE: Amdt. 173-94, 41 FR 16087, Apr. 15, 1976, unless otherwise noted.

§ 173.605 Ammonium hydrosulfide solution, ammonium polysulfide solution, bromochloromethane, dibromodifluoromethane, dichlorodifluoroethylene; dichloromethane, methyl chloroform, perfluoro-2-butene, tetrachloroethylene, and trichloroethylene.

(a) Ammonium hydrosulfide solution, ammonium polysulfide solution, bromochloromethane, dibromodifluoromethane, dichlorodifluoroethylene, dichloromethane, methyl chloroform, perfluoro-2-butene, tetrachloroethylene, and trichloroethylene, when offered for transportation on a passenger-carrying aircraft, must be prepared for shipment in compliance with § 173.510 and must be packaged as follows:

(1) Wooden box with inside earthenware, glass, metal, or plastic packagings of not more than 2 gallons capacity each, with sufficient cushioning and absorbent material to prevent breakage and leakage.

(2) Fiberboard box with inside earthenware, glass, metal, or plastic packagings of not more than 1 gallon capacity each, with sufficient cushioning and absorbent material to prevent breakage and leakage.

(3) Metal drum of not more than 10 gallons capacity.

(4) Outside packaging with inside earthenware, glass, plastic, or metal packagings of not more than 4 fluid ounces capacity each, with sufficient cushioning and absorbent material to prevent breakage and leakage. The maximum amount that may be shipped in any one outside packaging is 5 gallons.

§ 173.610 Camphene.

(a) Camphene, when offered for transportation by water, must be prepared for shipment in compliance with § 173.510 and must be packaged in a wooden, metal, or rigid plastic packaging.

(b) Camphene, when offered for transportation by air, must be prepared for shipment in compliance with § 173.510 and must be packaged as prescribed in § 173.154.

[Amdt. 173-94A, 41 FR 40684, Sept. 20, 1976]

§ 173.615 Carbon dioxide, solid (dry ice).

(a) Solid carbon dioxide, when offered for transportation by aircraft or water, must be packed in packaging designed and constructed to permit the release of carbon dioxide gas to prevent a build-up of pressure that could rupture the packaging. For each shipment by air, advance arrangements between the shipper and each carrier must be made.

(b) Railroad cars and motor vehicles containing solid carbon dioxide, when accepted for transportation on board ocean vessels, must be conspicuously marked on two sides "WARNING—CO$_2$ SOLID (DRY ICE)."

(c) Other packagings, when accepted for transportation on board ocean vessels, must be marked "CARBON DIOXIDE. SOLID—DO NOT STOW BELOW DECKS."

(d) Not more than 440 pounds of solid carbon dioxide may be transported in any one cargo pit or bin on any aircraft except by specific and special arrangement between the shipper and the aircraft operator.

§ 173.620 Carbon tetrachloride, ethylene dibromide (1,2-dibromoethane), and tetrachloroethane.

(a) Carbon tetrachloride, ethylene dibromide, and tetrachloroethane, when offered for shipment by cargo-only aircraft and water, must be prepared for shipment in compliance with § 173.510 and must be packaged as follows:

(1) As prescribed in §§ 173.344, 173.345 or 173.346, meeting the packaging requirements applicable to Poison B liquids.

(2) Uniform Freight Classification (UFC), Rule 40, Section 5. Metal barrel or drum, not over 55 gallons capacity. Not authorized for transportation by air.

(3) Wooden box with inside containers, not over 200 pounds gross weight. Not authorized for transportation by air.

(4) Uniform Freight Classification (UFC), Rule 41, Sections 2 and 3. Fiberboard box, with inside containers, not over 90 pounds gross weight. Not authorized for transportation by air.

(5) Tank cars or motor vehicle tank trucks. Not authorized for transportation by air.

(6) Specification 51 (§ 178.245 of this subchapter). Portable tanks. Not authorized for transportation by air.

(b) Carbon tetrachloride, ethylene dibromide, and tetrachloroethane, when offered for shipment by passenger-carrying aircraft, must be prepared for shipment in compliance with § 173.510 and must be packaged to meet the packaging requirements of § 173.345.

[Amdt. 173-94, 41 FR 16087, Apr. 15, 1976, as amended by Amdt. 173-94A, 41 FR 40684, Sept. 20, 1976]

§ 173.630 Chloroform.

(a) Chloroform, when offered for transportation by aircraft, must be prepared for shipment in compliance with § 173.510 and must be packaged as follows:

(1) Wooden box with inside earthenware, glass, metal, or plastic packaging of not more than 2 gallons capacity each.

(2) Fiberboard box with inside earthenware, glass, metal, or plastic packaging of not more than 1 gallon capacity each.

(3) Metal drum, not over 55 gallons capacity.

(4) Outer packaging with inside earthenware, glass, metal, or plastic packagings of not more than 4 fluid ounces capacity each, not exceeding 5 gallons total content.

(b) Chloroform, when offered for shipment by water, must be prepared for shipment in compliance with § 173.510 and must be packaged as follows:

(1) As prescribed in § 173.344, 173.345 or 173.346 meeting the packaging requirements applicable to Poison B liquids.

(2) Uniform Freight Classification (UFC), Rule 40, Section 5. Metal barrel or drum, not over 55 gallons capacity.

(3) Wooden box with inside containers, not over 200 pounds gross weight.

(4) Uniform Freight Classification (UFC), Rule 41, Section 2 and 3. Fiberboard box with inside containers, not over 90 pounds gross weight.

§ 173.635 Ferrophosphorus.

(a) Ferrophosphorus, when offered for transportation by water, must be prepared for shipment in compliance with § 173.510 and must be packaged as follows:

(1) Steel barrel or drum;

(2) Wooden barrel or keg;

(3) Wooden box with inside container; or

(4) Sift-proof railroad freight car.

§ 173.645 Ferrosilicon.

(a) Ferrosilicon, containing 30 percent or more but not more than 70 percent silicon, when offered for shipment by water, must be prepared for shipment in compliance with § 173.510 and must be packaged as follows:

(1) Steel barrel or drum;

(2) Wooden barrel or keg; or

(3) Wooden box, not over 500 pounds gross weight.

(b) Ferrosilicon, containing 30 percent or more but not more than 70 percent silicon, when offered for shipment by cargo-only aircraft must be prepared for shipment in compliance with §§ 173.510 and 173.154.

§ 173.650 Hexachloroethane.

(a) Hexachloroethane, when offered for shipment by water, must be prepared for shipment in compliance with § 173.510 and must be packaged as follows:

(1) As prescribed in §§ 173.363, 173.364 and 173.365, meeting the packaging requirements applicable to Poison B solids.

(2) Uniform Freight Classification (UFC), Rule 40, Section 5. Metal barrel or drum, not over 55 gallons capacity each.

(3) Wooden box with inside containers, not over 200 pounds gross weight.

(4) Uniform Freight Classification (UFC), Rule 41, Sections 2 and 3. Fiberboard box with inside containers, not over 90 pounds gross weight.

[Amdt. 173-94, 41 FR 16087, Apr. 15, 1976, as amended by Amdt. 179-94A, 41 FR 40684, Sept. 20, 1976]

§ 173.655 Naphthalene or naphthalin.

(a) Naphthalene or naphthalin, when offered for shipment by water, must be prepared for shipment in compliance with § 173.510 and must be packaged as follows:

(1) Wooden barrel or keg;

(2) Wooden box;

(3) Fiberboard box;

(4) Metal barrel or drum; or

(5) Burlap (jute) bag, not over 224 pounds net weight. Authorized only when the melting point is 167° F. or higher.

(b) Naphthalene or naphthalin, when offered for shipment by cargo-only aircraft, must be prepared for shipment in compliance with § 173.510 and must be packaged as follows:

(1) As prescribed for passenger-carrying aircraft in paragraph (c) of this section, or

(2) As prescribed in § 173.154.

(c) Naphthalene or naphthalin, when offered for transportation by passenger-carrying aircraft, must be prepared for shipment in compliance with § 173.510 and must be packaged as follows:

(1) Earthenware, glass, metal, or plastic inside packagings of not more than 5 pounds capacity each, in strong outside packaging not over 25 pounds net weight.

Subpart L—Other Regulated Material; ORM–B

SOURCE: Amdt. 173-94, 41 FR 16088, Apr. 15, 1976, unless otherwise noted.

§ 173.800 Ammonium hydrogen fluoride, ammonium hydrogen sulfate, ammonium fluoride, barium oxide, chloroplatinic acid, copper chloride, ferric chloride, lead chloride, molybdenum pentachloride, potassium hydrogen sulfate, sodium aluminate, sodium hydrogen sulfate, and or sodium hydrogen sulfite, (each in solid form).

(a) Ammonium hydrogen fluoride, ammonium hydrogen sulfate, ammonium fluoride, barium oxide, chloroplatinic acid, copper chloride, ferric chloride, lead chloride, molybdenum pentachloride, potassium hydrogen sulfate, sodium aluminate, sodium hydrogen sulfate, or sodium hydrogen sulfite, when offered for transportation by passenger-carrying aircraft, must be prepared for shipment in compliance with § 173.510 and must be packaged as follows:

(1) Earthenware, glass, metal, or plastic inside packagings of not more than 5 pounds net capacity each. Inside packagings must be packed in strong outside packaging, containing not more than 25 pounds net weight.

§ 173.850 Lime, unslaked; quicklime; and calcium oxide.

(a) Unslaked lime, quicklime, or calcium oxide when offered for transportation by cargo-only aircraft or water, must be prepared for shipment in compliance with § 173.510 and must be packed in waterproof packaging as follows:

(1) Steel barrel or drum;

(2) Wooden barrel or keg;

(3) Wooden box;

(4) Multi-wall paper bag, not over 100 pounds net weight;

(5) Paper-lined burlap bag, not over 100 pounds net weight; or

(6) Sift-proof railroad freight car.

(b) Unslaked lime, quicklime, or calcium oxide, when offered for transportation by passenger-carrying aircraft, must be prepared for shipment in compliance with § 173.510 and must be packaged as follows:

(1) Earthenware, glass, metal, or plastic inside packagings, of not more than 5 pounds net capacity each. Inside packagings must be packed in strong outside packaging, containing not more than 25 pounds net weight.

§ 173.860 Mercury, metallic.

(a) Except as limited by paragraphs (b) and (c) of this section, metallic mercury, when offered for transportation by aircraft, must be prepared for shipment in compliance with § 173.510 and must be packaged as follows:

(1) Earthenware, glass, or plastic inside packagings of not more than 5 pounds capacity each packed in strong outside packagings. Either the inside or the outside packaging must have complete enveloping inner linings or bags of strong, leak-tight, and puncture resistant material impervious to mercury.

(2) Iron or steel flasks packed in outside packagings. Either the inside or the outside packaging must have completely enveloping inner linings or bags of strong, leak-tight, and puncture resistant material impervious to mercury.

(b) Manufactured devices of which mercury is a component part (except tubes as described in paragraph (c) of this section) packed in outside packagings having completely enveloping inner linings or bags of strong, leak-tight, and puncture resistant material impervious to mercury, may be transported by aircraft if prepared for shipment in compliance with § 173.510.

(1) Mercurial barometers, complying with this paragraph, which are loaded and unloaded from an aircraft under the supervision of and are accompanied in flight by a United States Weather Bureau official, or similar United States agency official are excepted from any other requirements of this subchapter.

(c) Electron tubes, vapor tubes, and similar tubes of which mercury is a component part, must be prepared for shipment in compliance with § 173.510 and must be packaged as follows:

(1) In outside packaging with all seams and joints sealed with self-adhesive, pressure-sensitive tape which will prevent the escape of mercury from the outside packagings; authorized only if the item contains not over one pound (454 grams) of mercury.

(2) In outside packaging having completely enveloping inner linings or bags of strong, leak-tight, and puncture resistant material impervious to mercury.

(3) In manufacturer's original packaging if each item does not contain more than 0.18-ounce (5 grams) of mercury per tube, and if the outside package does not contain more than 1.1 ounces (30 grams) total net quantity.

(4) In the manufacturer's original packagings if tubes are completely jacketed in sealed leak-tight metal cases.

§ 173.861 Gallium metal, liquid.

Gallium metal, liquid, when offered for transportation, must be packaged in earthenware, glass, or plastic inside packagings of not more than 5 pounds net capacity each packed in strong outside packagings. Either the inside or outside packagings must have complete enveloping linings or bags of strong, leak-tight, and puncture-resistant material impervious to liquid gallium metal.

[Amdt. 173-99, 41 FR 37115, Sept. 2, 1976]

§ 173.862 Gallium metal, solid.

Gallium metal, solid, when offered for transportation, must be packaged in glass or rigid plastic inside packagings of not more than 5 pounds net capacity each, enclosed in a sealed bag of strong, leak-tight, and puncture-resistant material impervious to liquid gallium. The sealed bag must be placed in a packaging constructed of wood, fiberboard, or plastic which is lined with a strong, leak-tight, and puncture-resistant material impervious to liquid gallium. This packaging must be enclosed in an outer packaging which contains dry ice or other means of refrigeration sufficient to maintain the gallium in a completely solid state during the entire anticipated time the gallium will be in transportation to its destination.

[Amdt. 173-99, 41 FR 37115, Sept. 2, 1976]

Subpart M—Other Regulated Material; ORM–C

Source: Amdt. 173-94, 41 FR 16089, Apr. 15, 1976, unless otherwise noted.

§ 173.910 Ammonium sulfate nitrate.

(a) Ammonium sulfate nitrate, when offered for transportation by water, must be prepared for shipment in compliance with § 173.510 and must be packaged as follows:

(1) Steel barrel or drum;

(2) Wooden barrel or keg;

(3) Wooden box with inside packagings;

(4) Fiberboard box with inside packagings, not over 90 pounds gross weight;

(5) Fiber drum, not over 150 pounds gross weight; or

(6) Paper bag, not over 200 pounds net weight, moisture, and sift-proof, of strength not less than the equivalent of bags made of 8-ounce burlap.

§ 173.915 Battery parts.

Battery parts, when exhausted and unwashed, when offered for transportation by water, must be prepared for shipment in compliance with § 173.510 and must be packed in a metal or wooden barrel with sufficient absorbent material to absorb any liquid present in the parts.

§ 173.920 Bleaching powder.

(a) Bleaching powder (or chlorinated lime) containing less than 39 percent available chlorine, when offered for transportation by water, must be prepared for shipment in compliance with § 173.510 and must be packaged as follows:

(1) Steel barrel or drum;

(2) Wooden barrel or keg;

(3) Wooden or fiberboard box, with inside containers; or

(4) Fiber drum with inside metallic or polyethylene liner, not over 275 pounds gross weight.

§ 173.925 Box toe board.

(a) Box toe board, nitrocellulose base, when offered for transportation by water, must be prepared for shipment in compliance with § 173.510 and must be packaged as follows:

(1) Wooden box, not over 350 pounds gross weight;

(2) Fiber tube, not over 25 pounds gross weight;

(3) Fiber drum, not over 200 pounds gross weight; or

(4) Fiberboard box, not over 90 pounds gross weight.

§ 173.930 Burlap bags, used and unwashed or not cleaned.

(a) Burlap bags, used and not cleaned, when offered for shipment by water, must be packed in tight bales bound with rope, wire, or other similar means.

(b) Burlap bags used for the shipment of any hazardous material and not cleaned may not be transported by air.

§ 173.931 Burlap cloth, burlap bags, new, used, and washed, or vacuum cleaned, wheel cleaned, or otherwise merchanically cleaned.

(a) Burlap cloth or new, used, and washed, or cleaned burlap bags when offered for transportation by air or by water, must be packaged as follows:

(1) In tight bales, bound with wire, metal hoops, rope, rattan, or withes.

(2) Tight bundles, bound with rope, wire, or other similar means.

(3) Wooden barrel or box.

§ 173.945 Calcium cyanamide, not hydrated.

(a) Calcium cyanamide, not hydrated, when offered for transportation by water, must be prepared for shipment in compliance with § 173.510 and must be packaged as follows:

(1) Steel barrel or drum; or

(2) Wooden barrel or keg:

(b) Calcium cyanamide, not hydrated,

when offered for transportation by cargo-only aircraft, must be prepared for shipment in compliance with §§ 173.510 and 173.154.

(c) Calcium cyanamide, not hydrated, when offered for transportation by passenger-carrying aircraft, must be prepared for shipment in compliance with § 173.510 and must be packed in earthenware, glass, metal, or plastic inside packagings of not over 1 pound each, adequately cushioned to prevent breakage and leakage. Inside packagings must be packed in a strong outside package containing not more than 25 pounds each.

§ 173.952 Castor beans and castor pomace.

(a) Castor beans and castor pomace, when offered for transportation by water, must be prepared for shipment in compliance with § 173.510 and must be packaged as follows:

(1) Sift-proof, five-ply paper bag, not over 100 pounds net weight.

(2) Sift-proof, paper or plastic lined burlap bag, not over 100 pounds net weight.

(3) Sift-proof, paper or plastic lined cotton bag, not over 100 pounds net weight.

§ 173.955 Coconut meal pellets.

(a) Coconut meal pellets which contain at least 6 percent water, when offered for transportation by water, must be prepared for shipment in compliance with § 173.510 and must be packaged as follows:

(1) Burlap (jute) bag;

(2) Multi-wall paper bag; or

(3) Polyethylene-lined burlap or paper bag.

§ 173.960 Copra.

Copra, when offered for transportation by water, must be prepared for shipment in compliance with § 173.510 and must be packaged in a burlap bag.

§ 173.965 Cotton and other fibers.

Cotton and the fibers jute, hemp, flax, sisal, coir, kapok, or similar vegetable fibers, when offered for transportation by water, must be packaged in bales, securely and tightly bound with rope, wire, or other similar means.

§ 173.970 Cotton batting, batting dross, wadding, seed hull fiber, shavings, pulp, and cut linters.

(a) Except as provided in paragraphs (b) and (c) of this section, cotton batting, batting dross, wadding, seed hull fiber, shavings, pulp, and cut linters, when offered for transportation by water, must be packaged as follows:

(1) Bales, covered with bagging on at least three-fourths of the bales surface, including both ends;

(2) Wooden barrel;

(3) Wooden box; or

(4) Burlap bag, tightly compressed.

(b) Cotton batting, batting dross, and wadding, when packaged in a wooden, fiberboard, or metal packaging, are not subject to any other requirements of this subchapter.

(c) Cut cotton linters may be packed in a bale, covered on the soft sides only, if the bale is compressed to a density of not less than 32 pounds per cubic foot and is bound with six or more bands.

§ 173.975 Cotton sweepings; and textile, cotton, felt, or wool waste.

(a) Cotton sweepings, and textile, cotton felt, or wool waste, when offered for transportation by water, must be packaged as follows:

(1) Bales, covered with bagging on at least three-fourths of the bale surface, including both ends.

(2) Burlap bag, tightly compressed.

§ 173.980 Excelsior.

Excelsior, when offered for transportation by water, must be packaged in a bale, tightly bound with wire or metal hoops.

§ 173.985 Exothermic ferrochrome, ferromanganese, and silicon-chrome.

Exothermic ferrochrome, ferromanganese, and silicon-chrome, when offered for transportation by water, must be prepared for shipment in compliance with § 173.510 and must be packaged in a steel barrel or drum, not over 750 pounds gross weight.

§ 173.990 Feed, wet, mixed.

Mixed, wet feed, when offered for transportation by water, must be prepared for shipment in compliance with § 173.510 and must be packaged in a burlap (jute) bag or in bulk, in a rail car.

§ 173.995 Fish scrap and fish meal.

(a) Except as provided in paragraph (b) of this section, fish scrap and fish meal, containing at least 6 percent but not more than 12 percent water, when offered for transportation by water, must be prepared for shipment in compliance with § 173.510 and must be packaged as follows:

(1) Burlap (jute) bag;

(2) Multi-wall paper bag;

(3) Polyethylene-lined burlap or paper bag; or

(4) Rail car.

(b) Fish scrap and fish meal may not be offered for transportation if the temperature of the material exceeds 120° F. (49° C.).

§ 173.1000 Garbage tankage, rough ammoniate tankage, or tankage fertilizer.

Garbage tankage containing 8 percent or more water, rough ammoniate tankage containing 7 percent or more water, or tankage fertilizer containing 8 percent or more water, when offered for transportation by water, must be prepared for shipment in compliance with § 173.510 and must be packaged in a burlap (jute) bag or in bulk, in a rail car.

§ 173.1005 Hay or straw.

Hay or straw, when offered for transportation by water, must be packaged in a tightly bound bale.

§ 173.1010 Lead dross or scrap.

(a) Lead dross or scrap, when offered for transportation by water, must be prepared for shipment in compliance with § 173.510 and must be packaged as follows:

(1) Steel barrel or drum;

(2) Wooden barrel or keg; or

(3) Wooden box.

§ 173.1020 Magnetized material.

(a) For the purpose of this subchapter, a substance is considered to be a magnetized material if, when packaged for transportation by air, it has a magnetic field strength of 0.002 gauss or more at a distance of 7 feet, from any point on the surface of the package, or which is of such mass that it could affect the aircraft instruments, particularly the compasses. When offered for transportation by air, magnetized material must be packaged as follows:

(1) Devices, such as magnetrons and light meters, must be packed so that the polarities of each unit oppose one another.

(2) Permanent magnets must have keeper bars installed, must be shielded, or the shipper specifically may arrange with the carrier for special stowage to prevent the magnetic field from causing compass deviation.

(3) Each package containing magnetized material must be marked "ORM-C", and bear the label described in § 172.446 of this subchapter.

(b) Any package which has a measurable magnetic field greater than 0.00525 gauss, when measured from any surface at a distance of 15 feet, must be shielded to reduce the reading to not greater than 0.00525 gauss before offering for shipment by air.

(c) For loading magnetized material aboard aircraft, see § 175.85 of this subchapter.

§ 173.1025 Metal borings, shavings, turnings or cuttings.

Metal borings, shavings, turnings, or cuttings, when offered for transportation by water, must be prepared for shipment in compliance with § 173.510 and must be packaged in a metal barrel or drum.

§ 173.1030 Oakum or twisted jute packing.

Oakum or twisted jute packing (treated or untreated), when offered for transportation by water, must be prepared for shipment in compliance with § 173.510 and must be packaged in a bale, tightly bound with wire, rope, or other similar means, or in a fiberboard box.

§ 173.1035 Oiled material.

(a) Oiled material, when offered for transportation by air or water, must be properly dried to prevent spontaneous heating, including carbon paper treated with oxidizable oil, oiled clothing, oil, impregnated or coated with 5 percent or less of animal or vegetable oil, and must be prepared for shipment in compliance with § 173.510 and must be packaged as follows:

(1) When the nature of the material permits, it must be tightly rolled or coiled, and wrapped or sealed with heavy paper.

(2) Fabricated articles not suitable for packagings as described in paragraph (a) (1) of this section, must be packed in sealed metal boxes or metal lined wooden boxes.

(3) Wooden or fiberboard box. Not authorized for transportation by air.

§ 173.1040 Pesticide, water-reactive.

Water reactive pesticide not otherwise subject to this subchapter, and including fungicides, herbicides, etc., which contain manganese ethylene bis-dithio carbamate, when offered for transportation by water, must be packaged in water resistant packaging in compliance with § 173.510.

§ 173.1045 Petroleum coke, uncalcined.

Uncalcined petroleum coke, when offered for transportation by water, must be prepared for shipment in compliance with § 173.510 and must be packaged in metal barrels or drums.

§ 173.1060 Rosin.

(a) Rosin (colophony), when offered for transportation by water, must be prepared for shipment in compliance with § 173.510 and must be packaged as follows:

(1) Steel barrel or drum;
(2) Wooden barrel or keg;
(3) Wooden box;
(4) Fiberboard box;
(5) Fiber drum;

(6) Burlap bag of at least 7½ ounces burlap, with water-proofed paper lining, not over 100 pounds net weight;

(7) Multi-wall paper bag, of at least 4-ply for not over 50 pounds net weight, or of at least 6-ply for not over 100 pounds net weight; or

(8) Uniform Freight Classification (UFC), Rule 40, Section 10. Multi-paper bag, at least 4-ply, not over 100 pounds net weight.

§ 173.1065 Rubber curing compound, solid.

(a) Solid rubber curing compounds, when offered for transportation by water, must be prepared for shipment in compliance with § 173.510 and must be packaged as follows:

(1) Metal barrel or drum;
(2) Fiber drum;
(3) Wooden barrel or keg;
(4) Wooden or fiberboard box;
(5) Sift-proof multi-wall paper bag; or
(6) Sift-proof lined burlap bag.

§ 173.1070 Sawdust or wood shavings.

(a) Sawdust or wood shavings, when offered for transportation by water, must be prepared for shipment in compliance with § 173.510 and must be packaged as follows:

(1) Steel barrel or drum;
(2) Wooden barrel or keg;
(3) Wooden or fiberboard box;
(4) Bag; or

(5) Bales, slatted and compactly bound with wire or metal bands.

§ 173.1075 Scrap paper or waste.

Scrap paper or waste, when offered for transportation by water, must be packaged in tight bales.

§ 173.1080 Sulfur.

(a) Sulfur, flowers of sulfur (sulfur flower), when offered for transportation by water, must be prepared for shipment in compliance with § 173.510 and must be packaged as follows:

(1) Metal barrel or drum;
(2) Wooden barrel or keg;
(3) Wooden or fiberboard box;
(4) Sift-proof multi-wall paper bag;
(5) Sift-proof paper-lined burlap bag; or
(6) Tight rail car.

§ 173.1085 Yeast, active (in liquid or compressed form).

(a) Yeast which will not generate gas in transit, or which is shipped in packagings where any gas which may develop can readily escape, is not subject to any other requirements of this subchapter.

(b) Any pressure vessel used must be equipped with a safety vent set to release gas at a maximum pressure of 25 p.s.i.g. when transported by air.

(c) Except for a material covered under paragraph (a) of this section, each shipping paper involving shipment by aircraft must indicate to the aircraft operator any special handling and refrigeration conditions necessary for safe transportation including instructions to the operator for handling and refrigeration in the event of delay en route.

Subpart N—Other Regulated Material; ORM–D

SOURCE: Amdt. 173–94, 41 FR 16091, Apr. 15, 1976, unless otherwise noted.

§ 173.1200 Consumer Commodity.

(a) In order to be transported under the proper shipping name of "consumer commodity," a material must meet that definition. It may be reclassed and offered for shipment as ORM–D material (See § 173.500) provided that an ORM–D exception authorized in the specific section applicable to the material and that it is prepared in accordance with the following paragraphs. (The gross weight of each package must not exceed 65 pounds and each package offered for transportation aboard aircraft must meet the requirements of § 173.6).

(1) *Flammable Liquids must be:* (i) In inside metal containers, each having a rated capacity of 1 quart or less, packed in strong outside packagings;

(ii) In inside containers, each having a rated capacity of 1 pint or less, packed in strong outside packagings.

(iii) In inside containers, each having a rated capacity of one gallon or less, packed in strong outside packagings. The provisions of this exception apply only if the flash point of the material is 73° F. or higher.

(2) *Corrosive liquids must be:* (i) In bottles, each having a rated capacity of 1 pint or less, each enclosed in a metal can, packed in strong outside packagings.

(ii) In metal or plastic containers, each having a rated capacity of 1 pint or less, packed in strong outside packagings.

(iii) In metal or plastic inside containers, each having a rated capacity of not over 1 quart, packed in strong outside packagings provided the liquid mixture contains 10 percent or less corrosive material and the remainder of the mixture does not meet the definition of a hazardous material as defined in the subchapter. Not authorized for transportation by air.

(3) *Corrosive solids* must be: (i) In earthenware, glass, plastic or paper containers each having a net weight of 5 pounds or less, packed in strong metal, wooden, or fiberboard outside packagings, each having a net weight of 25 pounds or less.

(ii) In metal, rigid fiber, or composition cans or cartons or rigid plastic containers each having a net weight of 10 pounds or less, packed in strong outside packagings each having a net weight of 25 pounds or less.

(iii) In metal, rigid fiber, or composition cans or cartons or rigid plastic containers, each having a rated capacity of not over 20 pounds, overpacked in metal, wooden or fiberboard outside containers not exceeding 50 pounds net weight provided the solid mixture contains 10 percent or less corrosive material and the remainder of the mixture does not meet the definition of a hazardous material as defined in this subchapter.

(4) *Flammable solids* except for charcoal briquettes must be in inside containers each having a net weight of 1 pound or less, packed in strong outside packagings each having a net weight of 25 pounds or less. Charcoal briquettes may be shipped in packagings having a net weight of 65 pounds or less.

(5) *Oxidizers* must be in inside containers each having a rated capacity of 1 pint or less for liquids or a net weight of 1 pound or less for solids, packed in strong outside packaging each having a net weight of 25 pounds or less.

(6) *Organic peroxides* must be; (i) In inside containers which must be securely packed and cushioned with noncombustible cushioning material in strong outside packagings containing not over 1 pint or 1 pound net quantity of the materials. Cushioning is not required when the liquid is contained in strong, securely closed, plastic packagings, not over 1 ounce capacity each, properly packed to prevent leakage or breakage.

(ii) In strong outside packagings of 24 or less inside fiberboard containers, each having 70 or less securely closed tubes having a maximum fluid capacity of ⅙-ounce each and securely packed in noncombustible cushioning material. Each fiberboard container may not contain more than 1 pint of liquid.

(7) *Poison B liquids or solids* must be in inside containers, each having a rated capacity of 8 ounces or less by volume for liquids or of 8-ounces or less net weight for solids packed in strong outside packagings.

(8) *Compressed gases* must be: (i) In inside containers, each having a water capacity of 4-fluid ounces or less (7.22 cubic inches or less), packed in strong outside packagings.

(ii) In inside container charged with a solution of materials and compressed gas or gases which is non-poisonous, meeting all of the following:

(A) Capacity may not exceed 50 cubic inches (27.7 fluid ounces);

(B) Pressure in the container may not exceed 180 p.s.i.g. at 130° F. (55° C.). If the pressure exceeds 140 p.s.i.g. at 130° F., (55° C.) but does not exceed 160 p.s.i.g. at 130° F., (55° C.) a specification DOT 2P (§ 178.33 of this subchapter) inside metal container must be used; if the pressure exceeds 160 p.s.i.g. at 130° F., (55° C.), a specification DOT 2Q (§ 178.33a of this subchapter) inside metal container must be used. In any event the metal container must be capable of withstanding, without bursting, a pressure of one and one-half times the equilibrium pressure of the contents at 130° F. (55° C.);

(C) Liquid content of the material and gas not completely fill the container at 130° F. (55° C.);

(D) The containers must be packed in strong outside packagings; and

(E) Each completed container filled for shipment must have been heated until the pressure in the container is equivalent to the equilibrium pressure of the content at 130° F. (55° C.) without evidence of leakage, distortion, or other defect.

(iii) In a non-refillable inside metal container of 50 cubic-inch capacity or less (27.7 fluid ounces), with foodstuffs or soaps and with soluble or emulsified compressed gas, provided the pressure in the container does not exceed 140 p.s.i.g. at 130° F. (55° C.). The metal container must be capable of withstanding, without bursting, a pressure of one and one-half times the equilibrium pressure of the contents at 130° F. (55° C.) and must comply with the following provisions:

(A) Containers must be packed in strong outside packagings, and

(B) Liquid content of the material and gas may not completely fill the container at 130° F. (55° C.).

(iv) In refillable inside metal containers with cream and soluble or emulsified compressed gas packed in strong outside packagings. Containers must be of such design that they will hold pressure without permanent deformation up to 375 p.s.i.g. and must be equipped with a device designed so as to release pressure without bursting of the container or dangerous projection of its parts at higher pressures.

(v) In non-refillable inside metal containers charged with a solution, containing biological products or a medical preparation which could be deteriorated by heat, and compressed gas or gasses which is nonpoisonous and nonflammable. The capacity of each container may not exceed 35 cubic inches (19.3 fluid ounces). The pressure in the container may not exceed 140 p.s.i.g. at 130° F. (55° C.), and the liquid content of the product and gas may not completely fill the container at 130° F. (55° C.). One completed container out of each lot of 500 or less, filled for shipment, must be heated, until the pressure in the container is equivalent to the equilibrium pressure of the content at 130° F. (55° C.). There may not be no evidence of leakage, distortion, or other defect. Container must be packed in strong outside packagings.

(vi) In electronic tubes, each having a volume of not more than 30 cubic inches and charged with gas to a pressure of not more than 35 p.s.i.g. and packed in strong outside packagings.

(vii) In an inside metal container as a component of an audible fire alarm system powered by a compressed gas meeting the following provisions:

(A) Each inside container must have contents which are not flammable, poisonous, or corrosive as defined under this Part;

(B) Each inside container may not have a capacity exceeding 35 cubic inches (19.3 fluid ounces);

(C) Each inside container may not have a pressure exceeding 70 p.s.i.g. at 70° F. (21° C.) and the liquid portion of the gas may not completely fill the inside container at 130° F. (55° C.);

(D) Each inside container must be designed and fabricated with a burst pressure of not less than five times its charged pressure or more at 130° F. (55° C.); and

(E) Each fire alarm system must be packed in a strong outside packaging.

[Amdt. 173-94, 41 FR 16091, Apr. 15, 1976, as amended by Amdt. 173-94A, 41 FR 40684, Sept. 20, 1976]

APPENDIX A—METHOD OF TESTING CORROSION TO SKIN

1. Corrosion to the skin is measured by patch-test technique on the intact skin of the albino rabbit, clipped free of hair. A minimum of six subjects are to be used in this test.

2. Introduce under a square cloth patch, such as surgical gauze measuring 1 inch by 1 inch and two single layers thick, 0.5 milliliter (in the case of liquids) or 0.5 gram (in the case of solids and semisolids) of the substance to be tested.

3. Immobilize the animals with patches secured in place by adhesive tape.

4. Wrap the entire trunk of each animal with an impervious material, such as rubberized cloth, for the 4 hour period of exposure. This material is to aid in maintaining the test patches in position and retards the evaporation of volatile substances. It is not applied for the purpose of occlusion.

5. After 4 hours of exposure, the patches are to be removed and the resulting reactions are to be evaluated for corrosion.

6. Readings are again to be made at least at the end of a total of 48 hours (44 hours after the first reading).

7. Corrosion will be considered to have resulted if the substance in contact with the rabbit skin has caused destruction or irreversible alteration of the tissue. Tissue destruction is considered to have occurred if, at any of the readings, there is ulceration or necrosis. Tissue destruction does not include merely sloughing of the epidermis, or erythema, edema, or fissuring.

[Amdt. 173-94, 41 FR 16092, Apr. 15, 1976, as amended by Amdt. 173-94A, 41 FR 40684, Sept. 20, 1976]

PART 174—CARRIAGE BY RAIL

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AUTHORITY: 18 U.S.C. 834, 49 CFR 1.53(g).

AUTHORITY: 49 U.S.C. 1803, 1804, 1808; 49 CFR 1.53(e).

EFFECTIVE DATE NOTE: The above authority citation becomes effective Jan. 3, 1977.

SOURCE: Amdt. 174–26, 41 FR 16092, Apr. 15, 1976, unless otherwise noted.

EFFECTIVE DATE NOTE: (1) Except as provided in paragraphs (2) through (4), compliance with the provisions of this amendment is not mandatory until January 1, 1977.

(2) Compliance with the provisions of this amendment pertaining to the information required to appear on a shipping paper or the format of a shipping paper, is not mandatory until July 1, 1977. (See note to 49 CFR 172.204(a) regarding delayed compliance with that section's required use of a newly worded shipper's certification.)

(3) A package filled, marked or labeled before July 1, 1976, in accordance with regulations in effect on June 30, 1976, may be offered for transportation and transported, even though it does not comply with the package, marking and labeling provisions of this amendment, if it (i) is offered for transportation before July 1, 1977, and (ii) complies with the package, marking and labeling regulations in effect on June 30, 1976.

(4) Compliance with the provisions of this amendment appearing in Subpart F of Part 172 (Placarding) is not mandatory until July 1, 1977.

(5) Under the authority of any of the preceding four numbered paragraphs:

(i) When a provision of this amendment is not complied with, the comparable provision (if any) of the regulations in effect on June 30, 1976, shall be complied with; however,

(ii) The hazard class and description of a material indicated on a shipping paper must the same as the hazard class indicated on the label (if any) displayed, and the description marked, on the package containing that material.

(6) For purposes of the application of Part 174 (except § 174.25) to rail cars from July 1, 1976, to July 1, 1977, placards specified in this amendment, and placards specified under regulations in effect on June 30, 1976, may be treated as equivalent according to the following table:

Hazard class (material)	Placard adopted under docket No. HM–103/112	Equivalent placard required by pt. 174 on June 30, 1976
Explosives A	EXPLOSIVES A	EXPLOSIVES.
Explosives B	EXPLOSIVES B	DANGEROUS.
Explosives C	FLAMMABLE	None.
Flammable liquid	FLAMMABLE	DANGEROUS.
Flammable solid	FLAMMABLE SOLID	DANGEROUS.
Oxidizer	OXIDIZER	DANGEROUS.
Corrosive liquid	CORROSIVE	DANGEROUS.
Nonflammable gas	NONFLAMMABLE GAS	DANGEROUS.
Flammable gas	FLAMMABLE GAS	DANGEROUS.
Poison A	POISON GAS	POISON GAS.
Poison B	POISON	DANGEROUS.
Radioactive material	RADIOACTIVE	DANGEROUS—RADIOACTIVE MATERIAL.
Organic peroxide	ORGANIC PEROXIDE	DANGEROUS.
(Chlorine)	CHLORINE	DANGEROUS.
(Oxygen, pressurized liquid)	OXYGEN	DANGEROUS.

(7) This amendment does not terminate any outstanding exemption issued under 49 CFR, Part 107 or its predecessor authorities. Any exemption from a regulatory requirement in effect on June 30, 1976, which is modified or replaced by this amendment, continues in effect:

(i) By its own terms, to the extent that continued compliance with that regulatory requirement is required or authorized by this amendment; and

(ii) For any provision of this amendment which is equivalent to that regulatory requirement.

Subpart A—General Requirements

§ 174.1 Purpose and scope.

This part prescribes requirements in addition to those contained in Parts 171, 172, 173, and 179 of this subchapter, to to be observed with respect to the transportation of hazardous materials in or on rail cars.

[Amdt. 174–26, 41 FR 16092, Apr. 15,1976, as amended by Amdt. 174–26A, 41 FR 40685, Sept. 20, 1976]

§ 174.3 Unacceptable hazardous materials shipments.

A shipment of a hazardous material that is not prepared for transportation in accordance with Parts 171, 172 and 173 of this subchapter may not be accepted for transportation or transported by rail except as provided in § 174.47(b).

[Amdt. 174–26, 41 FR 16092, Apr. 15, 1976, as amended by Amdt. 174–26A, 41 FR 40685, Sept. 20, 1976]

§ 174.5 Carrier's materials and supplies.

This subchapter applies to the transportation of a carrier's materials and supplies moving by rail, except that the shipper's certification is not required when these materials and supplies are being transported by the carrier who owns them. The requirements of this subchapter do not apply to railway track torpedoes and fuses, carried in engines or rail cars for signaling purposes if contained in closed metal boxes when not in use.

[Amdt. 174–26, 41 FR 16092, Apr. 15, 1976, as amended by Amdt. 174–26A, 41 FR 40685, Sept. 20, 1976]

§ 174.7 Responsibility for compliance.

Unless this subchapter specifically provides that another person is to perform a particular duty, each carrier, including a connecting carrier, shall perform the duties specified and comply with each applicable requirement of this part, and shall instruct his employees in relation thereto.

§ 174.8 Inspection.

(a) Methods of manufacture, packing, and storage of hazardous material, insofar as they affect safety in transportation by rail, must be open to inspection by a duly authorized representative of the Department, an initial carrier, and the Bureau of Explosives.

(b) At any point where a train is required to be inspected, each placarded rail car and each rail car immediately adjacent thereto must be inspected. The cars may continue in transit only when the inspection indicates that the cars are in a safe condition for transportation. (See §§ 174.9 and 174.10.) The inspection of a rail car other than a tank car or a rail car containing Class A explosives must include a visual inspection for obvious defects of the running gear and any leakage of contents from the car and to determine whether all required placards are in place and conform to the information given on the train consist or other shipping document as required by § 174.26(b).

(c) For inspection requirements applicable to rail cars containing Class A explosives, see §§ 174.10 and 174.104.

[Amdt. 174–26, 41 FR 16092, Apr. 15, 1976, as amended by Amdt. 174–26A, 41 FR —, Sept. 20, 1976]

§ 174.9 Inspection of tank cars.

(a) Each loaded placarded tank car must be inspected by the carrier before acceptance at the originating point and when received in interchange to see that they are not leaking and that the air and hand brakes, journal boxes, and trucks are in proper condition for service.

(b) An empty tank car which previously contained a hazardous material and which is tendered for movement or received in interchange must have all manhole covers, outlet valve reducers, outlet valve caps, outlet valve cap plugs, end plugs, and plugs or caps or other openings securely in their proper places, except that heater coil inlet and outlet pipes must be left open for drainage.

(c) The safety valves on a tank car may not be tested while the car is loaded. Whenever a test of the safety valves or tank becomes due while a loaded car is in transit, unless the car is leaking or in a manifestly insecure condition, it must be forwarded to its destination, carded on each side with a card exhibiting the following notice:

Safety valves overdue for test:
Tank overdue for test:
Moving under authority of 49 CFR 174.9 (c).

A prompt report of each such movement, showing the identifying initials and number of each car, must be made to the Bureau of Explosives by the carrier carding the cars.

§ 174.10 Inspection of cars at interchange.

(a) Each rail car containing explosives requiring EXPLOSIVES A placards (see § 174.104) which is offered by a connecting line must be visually inspected externally by the receiving line, including the roof. If practicable, the receiving carrier should also inspect the lading. The car may not be forwarded until all discovered violations have been corrected.

(b) If the car shows evidence of or if there is any reason to suspect that it has received rough treatment, the lading must be inspected and placed in proper condition before the car is permitted to proceed. When interchange occurs and the inspection is performed after daylight hours, electric flashlights should be used and naked lights may not be used.

(c) A shipment of hazardous materials offered by a connecting carrier must comply with this subchapter, and the revenue waybill, freight bill, manifest of lading, card waybill, switching order, transfer slip ticket, or other billing, must bear the placard endorsement prescribed by § 174.25 of this subpart in letters not less than three-eighths of an inch high near the car number. The billing must also bear a notation "placarded" followed by the name of the placard.

(d) A car containing packages of hazardous materials other than explosives may not be offered in interchange if the packages are in a leaking condition.

(e) In the case of a tank car which has developed small leaks in the course of its movement to an interchange point and which requires a short movement to effect delivery for unloading by the consignee, the movement may be made if it can be made safely adhering to the precautions prescribed by § 174.50.

[Amdt. 174–26, 41 FR 16092, Apr. 15, 1976, amended by Amdt. 174–26A, 41 FR 40685, as amended by Amdt. 174–26A, 41 FR 40685,

§ 174.11 Canadian shipments and packages.

A Canadian shipment or package may be transported by rail car within the United States if it is in compliance with the requirements of this subchapter or the regulations of the Canadian Transport Commission as provided in § 173.8 of this subchapter.

§ 174.12 Intermediate shippers and carriers.

(a) Each intermediate carrier, including a freight forwarder, must have on file a copy of the shipper's certified shipping paper, as prescribed in Part 172 of this subchapter, for each shipment of hazardous materials it handles. An intermediate shipper or carrier may not forward or transport a shipment of hazardous materials if it does not meet the requirements of this subchapter.

(b) An intermediate carrier offering or delivering for transportation any loaded motor vehicle, trailer, semi-trailer, or container containing any hazardous material must show on the shipping paper the information required by § 172.201 of this subchapter and a description of the type vehicle or container.

§ 174.14 Movements to be expedited.

(a) A carrier must forward each shipment of hazardous materials promptly and within 48 hours (Saturdays, Sundays, and holidays excluded), after acceptance at the originating point or receipt at any yard, transfer station, or interchange point, except that where biweekly or weekly service only is performed, a shipment of hazardous materials must be forwarded on the first available train.

(b) A tank car loaded with any flammable liquid or gas, or a poison gas, may not be received and held at any point, subject to forwarding orders, so as to defeat the purpose of this section or of § 174.204 of this subchapter.

§ 174.16 Removal and disposition of hazardous materials at destination.

(a) *Delivery at non-agency stations.* A shipment of explosives may not be unloaded at non-agency stations unless the consignee is there to receive it or unless properly locked and secure storage facilities are provided at that point for its protection. If delivery cannot be so made, the shipment must be taken to next or nearest agency station for delivery.

(b) *Delivery at agency stations.* A carrier shall require the consignee of each shipment of hazardous materials to remove the shipment from carrier's property within 48 hours (exclusive of Saturdays, Sundays, and holidays) after notice of arrival has been sent or given. If not so removed, the carrier shall immediately dispose of the shipments as follows:

(1) *Class A explosives:* If safe storage is available, by storage at the owner's expense; if safe storage is not available, by return to the shipper, sale, or destruction under supervision of a competent person; or if safety requires, by destruction under supervision of a competent person.

(2) *Hazardous materials, except Class A explosives, in carload shipments:* By storage on the carrier's property; by storage on other than the carrier's property, if safe storage on the carrier's property is not available; or by sale at expiration of 15 calendar days after notice of arrival has been sent or given to the consignee, provided the consignor has been notified of the non-delivery at the expiration of a 48-hour period and orders for disposition have not been received.

(3) *Hazardous materials, except Class A explosives, in less-than-carload shipments:* By return to the shipper if notice of non-delivery was requested and given the consignor as prescribed by the carrier's tariff, and orders for return to shipper have been received; by storage on the carrier's property; by storage on other than the carrier's property, if safe storage on carrier's property is not available; or by sale at expiration of 15 calendar days after notice of arrival has been sent or given to the consignee, provided the consignor has been notified of non-delivery at expiration of a 48-hour period and orders for disposition have not been received.

§ 174.18 Astray shipments.

An astray package of hazardous materials other than explosives, of known destination and in proper condition for safe transportation, must be forwarded immediately on an "astray bill", showing the information required by Subpart C of Part 172 of this subchapter. When necessary to replace a label and doubt exists as to the kind, the FLAMMABLE LIQUID label must be applied. For astray shipments of explosives, see § 174.103.

§ 174.20 Local or carrier restrictions.

(a) When local conditions make the acceptance, transportation, or delivery of hazardous materials unusually hazardous, local restrictions may be imposed by the carrier.

(b) Each carrier must report to the Bureau of Explosives for publication the full information as to any restrictions which it imposes against the acceptance, delivery, or transportation of hazardous materials, over any portion of its lines under this section.

Subpart B—General Operating Requirements

§ 174.24 Shipping papers.

(a) Except as provided in paragraph (c) of this section, no person may accept for transportation by rail any hazardous material which is subject to this subchapter unless he has received a shipping paper prepared in the manner specified in Subpart C of Part 172 of this subchapter. In addition, the shipping paper must include a certificate, if required by § 172.204 of this subchapter. However, no member of the train crew of a train transporting the hazardous material is required to have a shipper's certificate on the shipping paper in his possession if the original shipping paper containing the certificate is in the originating carrier's possession.

(b) Except as provided in paragraph (c) of this section, a member of the train crew of a train transporting hazardous materials must have in his possession a copy of the shipping papers for shipment of hazardous materials being transported showing the information required by §§ 172.202 and 172.203 of this subchapter.

(c) Paragraphs (a) and (b) of this section do not apply to materials classed as ORM-A, B, C, or D.

§ 174.25 Additional information on waybills, switching orders and other billings.

(a) Each waybill, switching ticket, switching order or other billing used in place thereof, prepared by the carrier from bills-of-lading, shipping orders or other shipping papers, and each shipping order used as a waybill for a rail car required to be placarded by Subpart F of Part 172 of this subchapter must, in addition to containing the information required by §§ 172.202 and 172.203 of this subchapter, be plainly marked by the carrier with—

(1) In the case of a flatcar carrying trailers or containers, an indication of which trailers or containers contain the hazardous materials; and

(2) The placard endorsement specified in the following table for the hazardous material or class concerned near the space on the face of the billing provided for the car number—

(i) In letters not less than ⅜ of an inch high, or (ii) In bold, upper case letters not less than 1/10 of an inch high inside a rectangle made with asterisks (*) or the symbol for number (#), and not closer to the endorsement than ⅛ of an inch on all sides.

Hazardous material or class	Placard notation	Placard endorsement
Explosives, class A	Placarded EXPLOSIVES A	Explosives.
Explosive chemical ammunition containing class A poison.	Placarded EXPLOSIVES A and POISON GAS.	Explosives and poison gas.
Explosives, class B	Placarded EXPLOSIVES B	Dangerous.
Explosives, class C	Placarded FLAMMABLE	Dangerous.
Flammable liquids	Placarded FLAMMABLE	Dangerous.
Flammable solids	Placarded FLAMMABLE SOLID	Dangerous.
Oxidizer	Placarded OXIDIZER	Dangerous.
Corrosive material	Placarded CORROSIVE	Dangerous.
Nonflammable gases	Placarded NON-FLAMMABLE GAS	Dangerous.
Flammable gases	Placarded FLAMMABLE GAS	Dangerous.
Poisonous gases or liquids, class A.	Placarded POISON GAS	Poison gas.
Poison, class B	Placarded POISON	Dangerous.
Radioactive material (Yellow-III label only).	Placarded RADIOACTIVE	Radioactive material.
Orangic peroxide	Placarded ORGANIC PEROXIDE	Dangerous.
Irritating material	Placarded DANGEROUS	Dangerous.
Combustible liquid	Placarded COMBUSTIBLE	None.
Chlorine	Placarded CHLORINE	Dangerous.
Fluorine	Placarded POISON	Dangerous.
Oxygen (liquefied)	Placarded OXYGEN	Dangerous.
Empty tank cars last containing a hazardous material other than a combustible liquid.	See sec. 174.25(c)	Dangerous.

(b) When the initial movement of a rail car required to be placarded is a switching operation, the switching order, switching receipt, or switching ticket, and all copies thereof, prepared by the shipper, or by the carrier under the shipper's written authority, must contain the following:

(1) The proper shipping name specified in § 172.101 of this subchapter;

(2) The hazard class specified in § 172.101 of this subchapter;

(3) The total quantity (by weight, volume, or as otherwise appropriate) of the hazardous material covered by the description;

(4) The shipper's certification and signature specified in § 172.204 of this subchapter;

(5) The placard notation specified in the Table in § 174.25(a); and

(6) The placard endorsement specified in the Table in § 174.25(a).

(c) Except as otherwise provided in this subchapter for empty tank cars last containing a hazardous material, the billing must show the EMPTY: Last contained", followed by the name of the hazardous material last contained in the tank car. For example: EMPTY: Last Contained NITRIC ACID.

(d) At each station, or other point, where any other shipment of material is loaded into a properly certified and placarded rail car containing a shipment of Explosives A, and when a shipment of Explosives A, is transferred or reloaded, or a carload shipment of Explosives A, is reconsigned, the carrier must make a record of the car, originating point, carrier's name and date of car certificate. In addition, the blocking and bracing must be inspected as required in § 174.104 and certified as being in compliance with the requirements of this part by the person making the inspection who shall sign the car certificates immediately below the signature which appears on Certificate Number 2 of the original car certificates attached to the car.

[Amdt. 174-26, 41 FR 16092, Apr. 15, 1976, as amended by Amdt. 174-26A, 41 FR 40685, Sept. 20, 1976]

§ 174.26 Notice to train crews of placarded cars.

(a) At each terminal or other place where trains are made up or switched by crews other than train crews accompanying the outbound movement of cars, the carrier shall execute consecutively numbered notices showing the location in each train of each rail car placarded EXPLOSIVE A or POISON GAS. A copy of each notice must be delivered to the train and engine crew concerned, and a copy thereof showing delivery to the train and engine crew must be kept on file by the carrier at each point where the notice is given. At points where train or engine crews are changed, the notice must be transferred from crew to crew. See paragraph (b) of this section for other placarded cars.

(b) The train crew must have a document indicating the position in the train of each loaded placarded car containing hazardous materials, except when the position is changed or the placarded car is placed in the train by a member of the train crew. A train consist on a separate document may be used to meet this requirement.

[Amdt. 174-26, 41 FR 16092, Apr. 15, 1976, as amended by Amdt. 174-26A, 41 FR 40685, Sept. 20, 1976]

§ 174.33 Lost or destroyed labels and placards.

Each carrier shall maintain an adequate supply of the labels and placards specified in Subparts E and F of Part 172 of this subchapter on hand to replace those that become lost or destroyed. The carrier shall replace each lost or destroyed label or placard, as the case may be, based on the information on the shipping papers.

§ 174.45 Reporting hazardous materials incidents.

When an incident occurs during transportation in which hazardous materials are involved, Hazardous Materials Incident Reports may be required. See §§ 171.15 and 171.16 of this subchapter.

§ 174.47 Correction of violations.

(a) A shipment of explosives discovered to be in violation of any of the requirements of this subchapter may not be forwarded until all discovered violations have been corrected.

(b) Unless leaking, or in a manifestly insecure condition, each package of hazardous materials other than explosives in transit must be forwarded to its destination and a report made of any violation observed. A leaking package may not be forwarded until repaired or reconditioned. (See §§ 171.15 and 171.16 of this subchapter for reporting requirements.)

§ 174.49 Flammable vapors.

A placarded box car, trailer-on-flatcar container-on-flatcar or car known to contain flammable liquids, gases, or vapors may not be entered with a lighted open-flame lantern, torch, or other fire, until all car doors are opened and sufficient time has been allowed for ventilation and escape of any vapors.

§ 174.50 Leaking tank cars.

(a) A tank car discovered in a leaking condition in transit may not be unnecessarily moved until the unsafe condition has been corrected. In the case of a small leak, short movements may be made if a receptacle is attached under the leak to prevent the spread of the liquid over tracks.

(b) Each leaking tank car must be protected against ignition of the liquid or vapor by flame from sources such as lanterns, torches, flares, fusees, switch lights, switch-thawing flames, fires on sides of tracks, hot coals, lighted pipes, cigars, or cigarettes. All spectators should be kept at a safe distance.

(c) Highly volatile liquids can not be transferred by a vacuum pump unless the pump is placed so that the liquid flows to it from the tank by gravity.

(d) Whenever the leaking condition of a tank car requires the transfer of lading or makes the tank unfit for reloading, the car must be stenciled on both sides in letters three inches in size, adjacent to the car number, "LEAKY TANK. DO NOT LOAD UNTIL REPAIRED". The location of the leak must be indicated and marked with the symbol "X". The owner must be immediately notified by telegram and advised of the exact location of the leak. The stenciling may not be removed until the tank is repaired.

(e) Open-flame lights may not be brought near a placarded empty or partially loaded tank car.

(f) A leaking tank car containing any hazardous material may be switched to a location distant from habitation and highways if the move can be safely made.

Subpart C—General Handling and Loading Requirements

§ 174.55 General requirements.

(a) Except as otherwise specifically provided, each package of hazardous materials being transported by rail car must be loaded and blocked and braced as prescribed in this subchapter. For recommended methods of blocking and bracing in cars, truck bodies, or trailers, see Bureau of Explosives Pamphlet Nos. 6 and 6C. See loading and storage chart (§ 174.81) before loading labeled materials together.

(b) Packages of hazardous materials must be loaded and securely blocked and braced to prevent the packages from changing position, falling to the floor, or sliding into each other under shocks normally incident to transportation. This requirement does not preclude the use of loading methods that are designed to permit limited movement of the load and that are approved by the Department.

(c) Each package of hazardous materials bearing markings "THIS SIDE UP" or "THIS END UP" must be handled and loaded, blocked and braced, in the car to remain in the position indicated by the markings during transportation.

(d) A heavy package or container of hazardous materials may be trucked, rolled or moved by skid, fork truck, or other handling devices. It may not be dropped from any truck, platform, or rail car. Planks for rolling trucks from platforms to cars must have beveled edges.

(e) A carrier shall store hazardous materials in a secure location while they are being held for loading or delivery. The carrier shall insure that persons not having business with the carrier do not have access to these hazardous materials.

§ 174.57 Cleaning cars.

All hazardous material which has leaked from a package in any rail car or on other railroad property must be carefully removed.

§ 174.59 Marking and placarding of rail cars.

No person may transport a rail car carrying hazardous materials unless it is marked and placarded as required by this subchapter. Placards and car certificates lost in transit must be replaced at the next inspection point, and those not required must be removed at the next terminal where the train is classified.

§ 174.61 Truck bodies, trailers or freight containers on flatcars.

(a) A truck body, trailer or freight container containing a hazardous material must be designed and loaded so that it will not rupture or become seriously damaged under conditions normally incident to transportation. Each unit must be secured on a flatcar so that it cannot permanently change position during transit. Packages of hazardous materials contained therein must be loaded and braced as provided by §§ 174.101, 174.112, 174.115 and 174.55. Placards must be applied when prescribed by Part 172 and Part 174.

(b) A truck body, trailer or freight container equipped with automatic heating or refrigerating equipment employing any fuel or article classed as a hazardous material may be loaded and transported on a flatcar if the equipment is of a type approved by the Bureau of Explosives. The truck body, trailer or freight container must be secured on the flatcar so that it cannot permanently change position during transit.

(c) A cargo tank or multi-unit tank car tank containing hazardous materials may not be transported in trailer-on-flatcar, or container-on-flatcar service except under conditions approved by the Federal Railroad Administrator.

[Amdt. 174–26, 41 FR 16092, Apr. 15, 1976, as amended by Amdt. 174–26A, 41 FR 40685, Sept. 20, 1976]

§ 174.63 Portable containers and portable tanks.

(a) A portable container or portable tank containing a hazardous material must be designed and loaded so that it will not rupture, or become seriously damaged under conditions normally incident to transportation. Each unit must be secured in a closed or gondola car, on a flatcar, or in a truck body on a flatcar so that it cannot permanently change position during transit. The ends, sidewalls, or doors of a truck body or trailer may not be relied upon to prevent the shifting of a portable container or portable tank.

(b) A Specification 51, 52, 53, 56 or 57 portable tank may not be transported on flatcars or on flat trailers on flatcars, except under conditions approved by the Federal Railroad Administrator. For cargo tanks and multi-unit tank car tanks, see § 174.61(c).

(c) A Specification 51, 52, 53, 56 or 57 portable tank may be shipped only in a rail car that provides specific facilities for bracing and tie-down of these tanks. If TOFC or COFC service is utilized, the tank should be secured in its trailer body in compliance with Bureau of Explosives Pamphlet 6C.

[Amdt. 174–26, 41 FR 16092, Apr. 15, 1976, as amended by Amdt. 174–26A, 41 FR 40685, Sept. 20, 1976]

§ 174.67 Tank car unloading.

(a) In unloading tank cars, the following rules must be observed (see also § 174.200 for compressed gases):

(1) Unloading operations must be performed only by reliable persons properly instructed in unloading hazardous materials and made responsible for careful compliance with this part.

(2) Brakes must be set and wheels blocked on all cars being unloaded.

(3) Caution signs must be so placed on the track or cars to give necessary warning to persons approaching the cars from the open end of a siding and must be left up until after the cars are unloaded and disconnected from the discharge connection. The signs must be of metal or other comparable material, at least 12 inches high by 15 inches wide in size, and bear the words, "STOP—Tank Car Connected", or "STOP—Men at Work", the word "STOP" being in letters at least 4 inches high and the other words in letters at least 2 inches high. The letters must be white on a blue background.

(4) Before a manhole cover or outlet valve cap is removed from a tank car, the car must be relieved of all interior pressure by cooling the tank with water or by venting the tank by raising the safety valve or opening the dome vent at short intervals. However, if venting to relieve pressure will cause a dangerous amount of vapor to collect outside the car, venting and unloading must be deferred until the pressure is reduced by allowing the car to stand overnight or

otherwise cooling the contents. These precautions are not necessary when the car is equipped with a manhole cover which hinges inward or with an inner manhole cover which does not have to be removed to unload the car, and when pressure is relieved by piping vapor into a condenser or storage tank.

(b) After the pressure is released, the seal must be broken and the manhole cover removed as follows: (1) *Screw type.* The cover must be loosened by placing a bar between the manhole cover lug and knob. After two complete turns, so that vent openings are exposed, the operation must be stopped, and if there is any sound of escaping vapor, the cover must be screwed down tightly and the interior pressure relieved as prescribed in paragraph (a)(4) of this section, before again attempting to remove the cover.

(2) *Hinged and bolted type.* All nuts must be unscrewed one complete turn, after which same precautions as prescribed for screw type cover must be observed.

(3) *Interior type.* All dirt and cinders must be carefully removed from around the cover before the yoke is unscrewed.

(c) When the car is unloaded through a bottom outlet valve, the manhole cover must be adjusted as follows: (1) *Screw type.* The cover must be put in place, but not entirely screwed down, so that air may enter the tank through the vent holes in threaded flange of the cover.

(2) *Hinged and bolted type. A nonmetallic* block must be placed under one edge of the cover.

(3) *Interior type.* The screw must be tightened up in the yoke so that the cover is brought up within one-half inch of the closed position.

(d) When unloading through the bottom outlet of a car equipped with an interior manhole type cover, and in each case where unloading is done through the manhole (unless a special cover with a safety vent opening and a tight connection for the discharge outlet is used), the manhole must be protected by asbestos or metal covers against the entrance of sparks or other sources of ignition of vapor, or by being covered and surrounded with wet burlap or similar cloth material. The burlap or other cloth must be kept damp by the replacement or the application of water as needed.

(e) Seals or other substances must not be thrown into the tank and the contents may not be spilled over the car or tank.

(f) The valve rod handle or control in the dome must be operated several times to see that outlet valve in bottom of tank is on its seat before valve cap is removed.

(g) The valve cap, or the reducer when a large outlet is to be used, must be removed with a suitable wrench after the set screws are loosened and a pail must be placed in position to catch any liquid that may be in the outlet chamber. If the valve cap or reducer does not unscrew easily, it may be tapped lightly with a mallet or wooden block in an upward direction. If leakage shows upon starting the removal, the cap or reducer may not be entirely unscrewed. Sufficient threads must be left engaged and sufficient time allowed to permit controlled escape of any accumulation of liquid in the outlet chamber. If the leakage stops or the rate of leakage diminishes materially, the cap or reducer may be entirely removed. If the initial rate of leakage continues, further efforts must be made to seat the outlet valve (see paragraph (f) of this section). If this fails, the cap or reducer must be screwed up tight and the tank must be unloaded through the dome. If upon removal of the outlet cap the outlet chamber is found to be blocked with frozen liquid or any other matter, the cap must be replaced immediately and a careful examination must be made to determine whether the outlet casting has been cracked. If the obstruction is not frozen liquid, the car must be unloaded through the dome. If the obstruction is frozen liquid and no crack has been found in the outlet casting, the car may, if circumstances require it, be unloaded from the bottom by removing the cap and attaching unloading connections immediately. Before opening the valve inside the tank car, steam must be applied to the outside of the outlet casting or wrap casting with burlap or other rags and hot water must be applied to melt the frozen liquid.

(h) Unloading connections must be securely attached to unloading pipes on the dome or to the bottom discharge outlets before any discharge valves are opened.

(i) Tank cars may not be allowed to stand with unloading connections attached after unloading is completed. Throughout the entire period of unloading, and while car is connected to unloading device, the car must be attended by the unloader.

(j) If necessary to discontinue unloading a tank car for any reason, all unloading connections must be disconnected. All valves must first be tightly closed, and the closures of all other openings securely applied.

(k) As soon as a tank car is completely unloaded, all valves must be made tight, the unloading connections must be removed and all other closures made tight, except that heater coil inlet and outlet pipes must be left open for drainage. The manhole cover must be reapplied by the use of a bar or wrench, the outlet valve reducer and outlet valve cap replaced by the use of a wrench having a handle at least 36 inches long, and the outlet valve cap plug, end plug, and all other closures of openings and of their protective housings must be closed by the use of a suitable tool.

(l) Railroad defect cards may not be removed.

(m) If oil or gasoline has been spilled on the ground around connections, it must be covered with fresh, dry sand or dirt.

(n) All tools and implements used in connection with unloading must be kept free of oil, dirt, and grit.

[Amdt. 174-26, 41 FR 16092, Apr. 15, 1976, as amended by Amdt. 174-26A, 41 FR 40685, Sept. 20, 1976]

§ 174.69 Removal of placards and car certificates after unloading.

When lading requiring placards or car certificates is removed from rail cars other than tank cars, placards and car certificates must be removed by the party unloading the car.

§ 174.81 Segregation and separation requirements for hazardous materials in rail cars.

(a) Hazardous materials may not be loaded, transported, or stored together except as provided in the following table:

The following table shows the hazardous materials which must not be loaded or stored together.

The × at an intersection of horizontal and vertical columns shows that these articles must not be loaded or stored together, for example: Detonating fuzes class A, with or without radioactive components g horizontal column must not be loaded or stored with high explosives or propellant explosives, class A b vertical column.

		Low explosives or black powder	High explosives or propellant explosives, class A	Initiating or priming explosives, wet: Diazodinitrophenol, fulminate of mercury, guanyl nitrosamino guanylidene hydrazine, lead azide, lead styphnate, nitro mannite, nitrosoguanidine, pentaerythrite tetranitrate, tetrazene, lead mononitroresorcinate	Blasting caps, with or without safety fuse (including electric blasting caps), detonating primers	Ammunition for cannon with explosive projectiles, gas projectiles, smoke projectiles, incendiary projectiles, illuminating projectiles or shell; ammunition for small arms with incendiary projectiles; ammunition for small arms with explosive projectiles; rocket ammunition with explosive projectiles, gas projectiles, smoke projectiles, incendiary projectiles, illuminating projectiles; boosters (explosive); bursters (explosive); and supplementary charges (explosive) without detonators [c] [d]	Explosive projectiles; bombs; torpedoes; mines; rifle or hand grenades (explosive); jet thrust units (jato), class A; igniters, jet thrust, class A; rocket motors, class A; igniters, rocket motor, class A[d]	Detonating fuzes, class A, with or without radioactive components	Ammunition for cannon with empty, inert-loaded or solid projectiles, or without projectiles; rocket ammunition with empty, inert-loaded or solid projectiles	Propellant explosives, class B; jet thrust units (jato), class B; igniters, jet thrust, class B; rocket motors, class B; rocket engines (liquid), class B; igniters, rocket motor, class B; starter cartridges, jet engine, class B	Fireworks, special or railway torpedoes	Small arms ammunition, or cartridges, practice ammunition	Primers for cannon or small arms, empty cartridge bags—black powder igniters, empty cartridge cases, primed, empty grenades, primed, combination primers or percussion caps, toy caps, explosive cable cutters, explosive rivets	Percussion fuzes, tracer fuzes or tracers	Time, combination or detonating fuzes, class C	Cordeau detonant fuse, safety squibs, fuse lighters, fuse igniters, delay electric igniters, electric squibs, instantaneous fuse or igniter cord	Fireworks, common	Flammable liquids or flammable gases; Flammable liquid or flammable gas label	Flammable solids or oxidizing materials; Flammable solid, oxidizer, or organic peroxide label	Corrosive liquids; Corrosive label	Nonflammable gases; Nonflammable gas label	Poisonous gases or liquids, in cylinders, projectiles or bombs, poison gas label	Radioactive materials
		a	b	c	d	e	f	g	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CLASS A EXPLOSIVES																							
Low explosives or black powder	(a)	----	----	×	----	----	----	----	----	----	×	----	----	----	----	----	×	×	×	×	×	×	[f]×
High explosives or propellant explosives, class A	(b)	----	----	×	×	----	----	×	----	----	×	----	----	----	----	----	×	×	[a]×	×	×	×	[f]×
Initiating or priming explosives, wet: Diazodinitrophenol, fulminate of mercury, guanyl nitrosamino guanylidene hydrazine, lead azide, lead styphnate, nitro mannite, nitrosoguanidine pentaerythrite tetranitrate tetrazene, lead mononitroresorcinate	(c)	×	×	----	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	[f]×
Blasting caps, with or without safety fuse (including electric blasting caps), detonating primers	(d)	----	×	×	----	×	×	----	----	----	[a]×	----	----	----	----	----	[a]×	[a]×	[a]×	[a]×	[a]×	×	[f]×
Ammunition for cannon with explosive projectiles, gas projectiles, smoke projectiles, incendiary projectiles, illuminating projectiles or shell, ammunition for small arms with explosive bullets, or ammunition for small arms with explosive projectiles, or rocket ammunition with explosive projectiles, gas projectiles, smoke projectiles, incendiary projectiles, illuminating projectiles; and boosters (explosive), bursters (explosive), or supplementary charges (explosive) without detonators [c] [d]	(e)	----	----	×	×	----	----	×	----	----	×	----	----	----	----	----	×	×	×	×	×	×	[f]×
Explosive projectiles, bombs, torpedoes, or mines, rifle or hand grenades (explosive), jet thrust units (jato), explosive, class A, or igniters, jet thrust (jato), explosive, class A [d]	(f)	----	----	×	×	----	----	×	----	----	×	----	----	----	----	----	×	×	×	×	×	×	[f]×
Detonating fuzes, class A, with or without radioactive componants	(g)	----	×	×	----	×	×	----	----	----	×	----	----	----	----	----	×	×	×	×	×	×	[f]×
CLASS B EXPLOSIVES																							
Ammunition for cannon with empty, inert-loaded or solid projectiles, or without projectiles, or rocket ammunition with empty projectiles, inert-loaded or solid projectiles or without projectiles	1	----	----	×	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	[b]×	----	×	----
Propellant explosives, class B, jet thrust units (jato) class B, igniters, jet thrust (jato), class B, or starter cartridges, jet engine, class B	2	----	----	×	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	[b]×	----	×	----
Fireworks, special or railway torpedoes	3	×	×	×	[a]×	×	×	×	----	----	----	----	----	----	----	----	----	----	----	----	----	×	----

The following table shows the hazardous materials which must not be loaded or stored together.

The X at an intersection of horizontal and vertical columns shows that these articles must not be loaded or stored together, for example: Detonating fuzes class A, with or without radioactive components g horizontal column must not be loaded or stored with high explosives or propellant explosives, class A b vertical column.

		Low explosives or black powder	High explosives or propellant explosives, class A	Initiating or priming explosives, wet: Diazodinitrophenol, fulminate of mercury, guanyl nitrosamino guanylidene hydrazine, lead azide, lead styphnate, nitro mannite, nitrosoguanidine, pentaerythrite tetranitrate, tetrazene, lead mononitroresorcinate	Blasting caps, with or without safety fuse (including electric blasting caps), detonating primers	Ammunition for cannon with explosive projectiles, gas projectiles, smoke projectiles, incendiary projectiles, illuminating projectiles or shell; ammunition for small arms with incendiary projectiles; ammunition for small arms with explosive projectiles; rocket ammunition with explosive projectiles, gas projectiles, smoke projectiles, incendiary projectiles, illuminating projectiles; boosters (explosive); bursters (explosive); and supplementary charges (explosive) without detonators [d]	Explosive projectiles; bombs; torpedoes; mines; rifle or hand grenades (explosive); jet thrust units (jato), class A; igniters, jet thrust, class A; rocket motors, class A; igniters, rocket motor, class A[e]	Detonating fuzes, class A, with or without radioactive components	Ammunition for cannon with empty, inert-loaded or solid projectiles, or without projectiles; rocket ammunition with empty, inert-loaded or solid projectiles	Propellant explosives, class B; jet thrust units (jato), class B; igniters, jet thrust, class B; rocket motors, class B; rocket engines (liquid), class B; igniters, rocket motor, class B; starter cartridges, jet engine, class B	Fireworks, special or railway torpedoes	Small arms ammunition, or cartridges, practice ammunition	Primers for cannon or small arms, empty cartridge bags—black powder igniters, empty cartridge cases, primed, empty grenades, primed, combination primers or percussion caps, toy caps, explosive cable cutters, explosive rivets	Percussion fuzes, tracer fuzes or tracers	Time, combination or detonating fuzes, class C	Cordeau detonant fuse, safety squibs, fuse lighters, fuse igniters, delay electric igniters, electric squibs, instantaneous fuse or igniter cord	Fireworks, common	Flammable liquids or flammable gases; Flammable liquid or flammable gas label	Flammable solids or oxidizing materials; Flammable solid, oxidizer, or organic peroxide label	Corrosive liquids; Corrosive label	Nonflammable gases; Nonflammable gas label	Poisonous gases or liquids, in cylinders, projectiles or bombs, poison gas label	Radioactive materials
		a	b	c	d	e	f	g	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CLASS C EXPLOSIVES																							
Small arms ammunition, or cartridges, practice ammunition	4	----	----	X	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Primers for cannon or small arms, empty cartridge bags—black powder igniters, empty cartridge cases, primed, empty grenades, primed, combination primers or percussion caps, toy caps, explosive cable cutters, explosive rivets	5	----	----	X	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Percussioen fuzes, tracer fuses or tracer	6	----	----	X	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Time, combination or detonating fuses, class C	7	----	----	X	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Cordeau detonant fuse, safety squibs, fuse lighters, fuse igniters, delay electric igniters, electric squibs, instantaneous fuse or igniter cord	8	----	----	X	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Fireworks, common	9	X	X	X	[a]X	X	X	X	----	----	----	----	----	----	----	----	----	----	----	----	----	X	----
OTHER HAZARDOUS MATERIALS																							
Flammable liquids or flammable gases: Flammable liquid or flammable gas label	10	X	X	X	[a]X	X	X	X	----	----	----	----	----	----	----	----	----	----	----	----	----	X	----
Flammable solids or oxidizer; Flammable solid, oxdizer, or organic peroxide label	11	X	[c]X	X	[a]X	X	X	X	----	----	----	----	----	----	----	----	----	----	----	[b]X	----	X	----
Corrosive materials; Corrosive label	12	X	X	X	[a]X	X	X	X	[b]X	[b]X	----	----	----	----	----	----	----	----	[b]X	----	----	X	----
Nonflammable gases; Nonflammable gas label	13	X	X	X	[a]X	X	X	X	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Poisonus gases or liquids, in cylionders, projectiles or bombs, poison gas label	14	X	X	X	X	X	X	X	X	X	X	----	----	----	----	----	X	X	X	X	----	----	----
Radioactive materials	15	[f]X	[f]X	[f]X	[f]X	[f]X	[f]X	[f]X	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

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[a] Blasting caps or electric blasting caps in quantities not exceeding 1,000 caps may also be loaded and transported with articles named in vertical and horizontal columns 3, 9, 10, 11, 12, and 13. Loading and transportation of blasting caps or electric blasting caps in any quantity with articles named in vertical or horizontal columns b, c, e, or f is prohibited.

[b] Unless loaded in opposite ends of car, corrosive liquids must not be loaded with flammable solids, oxidizing materials, ammunition for cannon with or without projectiles, or propellant explosives, except that shippers loading carload shipments of corrosive liquids and flammable solids or oxidizing materials and who have obtained prior approval from the Department may load such materials together when it is known that the mixture of contents will not cause a dangerous evolution of heat or gas.

[c] Explosives, class A and explosives, class B must not be loaded or stored with chemical ammunition containing incendiary charges or white phosphorus either with or without bursting charges.

[d] Bursters (explosive), boosters (explosive), or supplementary charges (explosive) without detonators when shipped by, to or for the Departments of the Army, Navy, and Air Force of the United States Government may be loaded with any of the articles named except those in columns c, d, 3, 9, 10, 11, 12, 13, 14, and 15.

[e] Does not include nitrocarbonitrate or ammonium nitrate, fertilizer grade, which may be loaded, transported or stored with high explosives or with blasting caps or electric blasting caps, and detonating primers.

[f] Normal uranium. depleted uranium, and thorium metal in solid form may also be loaded and transported with articles named in vertical and horizontal columns a, b, c, d, e, f, and g.

NOTE 1: Charged electric storage batteries must not be loaded in the same car nor stored with any class A explosive.

NOTE 2: Cyanides or cyanide mixtures must not be loaded or stored with acids of corrosive liquids.

NOTE 3: Gas identification sets may be loaded and transported with all articles named except those in column c.

NOTE 4: Nitric acid, when loaded in the same car with other acids or other corrosive liquids in carboys, must be separated from the other carboys. A 2 by 6 inch plank, set on edge, should be nailed across the car floor at least 12 inches from the nitric acid carboys, and the space between the plank and the carboys of nitric acid should be filled with sand sifted ashes or other incombustible absorbent material.

NOTE 5: Smokeless powder for small arms in quantities not exceeding 100 pound-net weight in one car shall be classed as a flammable solid for purposes of transportation when approved for such classification by the Bureau of Explosives.

[Amdt. 174-26, 41 FR 16092, Apr. 15, 1976, as amended by Amdt. 174-26A, 41 FR 40685, Sept. 20, 1976]

Subpart D—Handling of Placarded Cars

§ 174.83 Switching of cars containing hazardous materials.

(a) In switching operations where the use of hand brakes is necessary, a loaded placarded tank car, or a draft which includes a loaded placarded tank car, may not be cut off until the preceding car or cars clear the ladder track and the draft containing the loaded placarded tank car, or a loaded placarded tank car, shall in turn clear the ladder before another car is allowed to follow. In switching operations where hand brakes are used, it must be determined by trial whether a loaded placarded car, or a car occupied by a rider in a draft containing a placarded car, has its hand brakes in proper working condition before it is cut off.

(b) A car placarded "EXPLOSIVES A" or "POISON GAS" may not be cut off while in motion or coupled into with more force than is necessary to complete the coupling. No car moving under its own momentum shall be allowed to strike any car placarded "EXPLOSIVES A" or "POISON GAS".

(c) When transporting a car placarded "EXPLOSIVES A" in a terminal, yard, or on a side track, or siding, it must be separated from the engine by at least one non-placarded car.

(d) The doors of each closed car placarded "EXPLOSIVES A" must be closed, securely fastened, and the lading securely braced before it is moved.

[Amdt. 174–26, 41 FR 16092, Apr. 15, 1976, as amended by Amdt. 174–26A, 41 FR 40685, Sept. 20, 1976]

§ 174.84 Switching of flatcars carrying placarded trailers or containers.

(a) A placarded flatcar or a flatcar carrying a placarded trailer or container that bears any placard prescribed by Part 172 of this subchapter may not be cut off while in motion.

(b) No rail car moving under its own momentum may be permitted to strike any placarded flatcar or any flatcar carrying a placarded trailer or container.

(c) No placarded flatcar or any flatcar carrying a placarded trailer or container may be coupled into with more force than is necessary to complete the coupling.

§ 174.85 Placement of freight cars placarded "EXPLOSIVES A" in yards, on sidings, or side tracks.

A rail car placarded "EXPLOSIVES A" while in a yard or on a siding or side track must be placed so that it will be safe from all probable danger of fire. A car so placarded may not be placed under a bridge or overhead highway crossing, not in or alongside a passenger shed or station except for loading or unloading purposes.

§ 174.86 Position in train of cars placarded "EXPLOSIVES A" or "POISON GAS" when accompanied by cars carrying guards or technical escorts.

A rail car placarded "EXPLOSIVES A" or "POISON GAS" in a moving or standing train must be next to and ahead of any car occupied by the guards or technical escorts accompanying this car. However, if a car occupied by guards or technical escorts is equipped with a lighted heater or stove, it must be the fourth car behind any car requiring "EXPLOSIVES A" placards.

[Amdt. 174–26, 41 FR 16092, Apr. 15, 1976, as amended by Amdt. 174–26A, 41 FR 40685, Sept. 20, 1976]

§ 174.87 Placarded cars prohibited in passenger trains, limited in mixed trains.

(a) A placarded rail car may not be transported in a passenger train. However, it may be transported in a mixed train, but only at such times and between such points that freight train service is not in operation and subject to the following limitations:

(1) A placarded car (other than one placarded "COMBUSTIBLE") may not be transported next to an occupied caboose or a car carrying passengers in mixed trains, except as provided in § 174.86.

(2) When a car containing hazardous materials requiring labels is moved in a mixed train and it is not occupied by an employee of the carrier, placards must be applied to the car as required by Subpart F of Part 172 of this subchapter.

§ 174.88 Position in train of cars placarded "EXPLOSIVES A".

In a moving or standing train, a car placarded "EXPLOSIVES A" may not be placed nearer than the sixth car from the engine or caboose. However, when the length of the train will not permit this car to be so placed, it must be placed as near the middle of the train as possible, but not less than the second car from the engine or occupied caboose.

§ 174.89 Position in train of cars placarded "RADIOACTIVE".

In a moving or standing train, a car placarded "RADIOACTIVE" may not be placed next to any other placarded car (other than one placarded "COMBUSTIBLE"), an engine, occupied caboose, or carload of undeveloped film. Cars placarded "RADIOACTIVE" may be placed next to each other.

[Amdt. 174–26, 41 FR 16092, Apr. 15, 1976, as amended by Amdt. 174–26A, 41 FR 40685, Sept. 20, 1976]

§ 174.90 Separating cars placarded "EXPLOSIVES A" or "POISON GAS" from other cars in trains.

(a) In a moving or standing train, a car placarded "EXPLOSIVES A" or "POISON GAS" may not be placed next to:

(1) A passenger car or combination car that may be occupied except as provided in § 174.86;

(2) Any loaded placarded car other than a car placarded with the same placard or one placarded "COMBUSTIBLE".

(3) An engine;

(4) A wooden underframe car (except on narrow gauge railroads);

(5) A loaded flatcar, except that loaded cars placarded "EXPLOSIVES A" may be placed next to each other. A flatcar equipped with permanently attached ends of rigid construction is considered to be an open-top car. (See subparagraph (6) of this paragraph.)

(6) An open-top car when any of the lading protrudes beyond the car ends or when any of the lading extending above the car ends is liable to shift so as to protrude beyond the car ends;

(7) A car with automatic refrigeration or heating apparatus in operation, or a car with open-flame apparatus in service, or with an internal combustion engine in operation;

(8) A car containing lighted heaters, stoves, or lanterns;

(9) A car occupied by any person, including any attendant for the cargo contained therein; or

(10) An occupied caboose, except as provided in § 174.86.

(b) In a moving or standing train, a car placarded "EXPLOSIVES A" may not be placed next to a car placarded "POISON GAS".

[Amdt. 174–26, 41 FR 16092, Apr. 15, 1976, as amended by Amdt. 174–26A, 41 FR 40685, Sept. 20, 1976]

§ 174.91 Position in train of loaded placarded tank car other than car placarded "COMBUSTIBLE".

Except for a tank car placarded "COMBUSTIBLE", a loaded placarded tank car in a moving or standing train may not be nearer than the sixth car from the engine, occupied caboose, or passenger car. However, when the length of the train will not permit a loaded placarded tank car to be so placed, it must be placed as near the middle of the train as possible and not nearer than the second car from the engine, occupied caboose, or passenger car.

[Amdt. 174–26, 41 FR 16092, Apr. 15, 1976, as amended by Amdt. 174–26A, 41 FR 40685, Sept. 20, 1976]

§ 174.92 Separating loaded placarded tank cars other than cars placarded COMBUSTIBLE from other cars in trains.

(a) In a moving or standing train a loaded placarded tank car, other than one placarded "COMBUSTIBLE", may not be placed next to:

(1) A passenger car or combination car, other than a car occupied by technical escorts and authorized personnel accompanying shipments;

(2) Any car placarded "EXPLOSIVES A", "RADIOACTIVE", or "POISON GAS";

(3) An engine or occupied caboose;

(4) A wooden underframe car (except on narrow gauge railroads);

(5) A loaded flatcar, other than a specially equipped car in trailer-on-flatcar or container-on-flatcar service or a flatcar loaded with vehicles secured by means of a device designed for that purpose and permanently installed on the flatcar, and of a type generally accepted for handling in interchange between railroads subject to the following:

(i) A flatcar equipped with permanently attached ends of rigid construction is considered to be an open-top car (see paragraph (a)(6) of this section); and

(ii) This exception for cars in trailer-on-flatcar service does not apply to loaded flatbed trucks, loaded flatbed trailers, loaded open-top trailers, or loaded trucks or trailers without securely closed doors;

(6) An open-top car when any of the lading protrudes beyond the car ends or when any of the lading extending above the car ends is liable to shift so as to protrude beyond the car ends;

(7) A car with automatic refrigeration or heating apparatus in operation or a car with open-flame apparatus in service or with an internal combustion engine in operation;

(8) A car occupied by any person, including any attendant for the cargo contained therein.

[Amdt. 174-26, 41 FR 16092, Apr. 15, 1976, as amended by Amdt. 174-26A, 41 FR 40685, Sept. 20, 1976]

§ 174.93 Position in train of empty placarded tank cars.

In a moving or standing train, empty placarded tank cars, except empty tank cars last containing combustible liquid, may not be placed nearer than the second car from the engine or occupied caboose.

[Amdt. 174-26A, 41 FR 40685, Sept. 20, 1976]

Subpart E—Detailed Requirements for Explosives

§ 174.100 Forbidden explosives.

(a) Explosives described in § 173.51 of this subchapter and initiating explosives, dry, may not be accepted for transportation by rail.

(b) Leaking or damaged packages of explosives may not be accepted for transportation by rail. Unless the carrier has knowledge or the shipper has substantiated to the carrier that a stain is due to contact with material other than a liquid explosive ingredient, the carrier shall refuse any package that shows excessive dampness, mold, or other outward sign of any oily stain, or other indication that absorption of the explosive is not perfect, or that the amount of the liquid part is greater than the absorbent can carry.

§ 174.101 Loading explosives.

(a) Boxes containing Class A explosives must be loaded so that the ends of wooden boxes will not bear against sides of any fiberboard boxes and so that the ends of any box will not cause a pressure point on a small area of another box.

(b) Explosive bombs, unfuzed projectiles, rocket ammunition and rocket motors, Class A or Class B explosives, which are not packed in wooden boxes, or large metal packages of incendiary bombs, each weighing 500 pounds or more, may be loaded in stock cars or in flat bottom gondola cars only if they are adequately braced. Boxed bombs, rocket ammunition and rocket motors, Class A or Class B explosives, which due to their size cannot be loaded in closed cars, may be loaded in open-top cars or on flatcars, provided they are protected from the weather and accidental ignition.

(c) Boxes of high explosives, low explosives or black powder packed in long cartridges, bags, or sift-proof liners, and containing no liquid explosive ingredient, may be loaded on their sides or ends.

(d) Class A explosives may not be loaded higher than any permanent car lining unless additional lining is provided as high as the lading.

(e) When the lading of a car includes any explosives, the weight of the lading must be distributed insofar as possible to equalize the weight on each side of the car and over the trucks.

(f) Except when boxed, metal kegs containing explosives must be loaded on their sides with their ends toward the ends of the car. Packages of explosives may not be placed in the space opposite the doors unless the doorways are boarded on the inside as high as the lading. This paragraph does not apply to palletized packages if they are braced so they cannot fall or slide into the doorways during transportation.

(g) Wooden kegs, fiber kegs, barrels, and drums must be loaded on their sides or ends, to best suit the conditions.

(h) At stations or other loading points, packages containing any explosives for which a certified and placarded car is prescribed (see § 174.104) or any blasting caps or electric blasting caps must be securely blocked and braced to prevent the packages from changing position, falling to the floor, or sliding into each other, under conditions normally incident to transportation. Explosives must be loaded so as to avoid transfer at stations. For recommended methods of blocking and bracing, see Bureau of Explosives Pamphlets No. 6 and 6A. Heavy packages or containers must be trucked, rolled, or moved by skids, fork trucks, or other handling devices and may not be dropped from trucks, platforms, or cars. Planks for rolling trucks from platforms to cars must have beveled ends. Loading platforms and the shoes of each workman must be free from grit. All possible precautions must be taken against fire. Explosives must be kept in a safe place and inaccessible to unauthorized persons while being held by a carrier for loading or delivery.

(i) To prevent delays of local freight trains, when there are shipments of explosives for different destinations loaded in a "peddler car" or "way car" the shipment for each destination must be stayed separately.

(j) Forwarding and transfer stations for explosives must be provided with the necessary materials for staying.

(k) Shippers must furnish the material for staying packages of explosives loaded by them.

(l) Class A explosives may not be loaded, transported, or stored in a rail car equipped with any type of lighted heater or open-flame device, or electric devices having exposed heating coils, or in a rail car equipped with any apparatus or mechanism utilizing an internal combustion engine in its operation.

(m) Blasting caps or electric blasting caps in quantity not exceeding 1,000 caps may be loaded in any closed car which is in good condition, without car certificates or placards.

(n) A container car or portable container on a flatcar or a gondola car other than a drop-bottom car, when properly loaded, blocked, and braced to prevent change of position under conditions normally incident to transportation, may be used to transport any Class A explosive except black powder packed in metal containers. A portable container must be of a type approved by the Department and must be designed and maintained so as to be weathertight and so constructed that sparks cannot enter. A wooden container must be painted or treated with fire retardant material of a type approved by the Department. In addition:

(1) A portable container must be of such design and so braced as to show no evidence of failure of the container or the bracing when subjected to impact from each end of at least 8 miles per hour. Its efficiency shall be determined by actual test, using dummy loads equal in weight and general character to material to be shipped.

(2) A container car or car which is loaded with portable containers must be placarded with the explosives placards as required by Subpart F of Part 172 of this subchapter and with properly executed car certificates as required by § 174.104.

(3) Lading must be so loaded, blocked, and braced within the container that it will not change position under impact from each end of at least 8 miles per hour.

(o) Class A or Class B explosives may be loaded and transported in a tight closed truck body or trailer on a flatcar. Wooden boxed bombs, rocket ammunition, and rocket motors, Class A or Class B explosives, which due to their size cannot be loaded in tight, closed truck bodies or trailers, may be loaded in or on open-top truck bodies or trailers. However, they must be protected against accidental ignition, and the wooden containers must be painted or treated with fire retardant and waterproof material of a type approved by the Department. In addition:

(1) Each truck body or trailer must meet the requirements of Part 177 of this subchapter, applicable to shipments of explosives by motor vehicle.

(2) Each truck body or trailer must be so secured on the rail car so that it will not permanently change position or show evidence of failure or impending failure of the method of securing the truck body or trailer under impact from each end of at least 8 miles per hour. Its efficiency shall be determined by actual test, using dummy loads equal in weight and general character to the material to be shipped. For recommended methods of blocking and bracing, see Bureau of Explosives Pamphlet 6C.

(3) Lading must be so loaded, blocked, and braced within or on the truck body or trailer that it will not change position

under impact from each end of at least 8 miles per hour. For recommended methods of blocking and bracing see Bureau of Explosives Pamphlet 6C.

(4) Each rail car containing explosives and each rail car loaded with truck bodies, trailers or containers containing explosives must be placarded with explosives placards as required by Subpart F of Part 172 of this subchapter and with properly executed car certificates as required by § 174.104.

(5) Each fuel tank of a heater or refrigerating machinery on the truck bodies or trailers must be drained and all automatic heating or refrigerating machinery must be made inoperative by disconnection of the automatic controls or the source of power for their operations.

[Amdt. 174–26, 41 FR 16092, Apr. 15, 1976, as amended by Amdt. 174–26A, 41 FR 40685, Sept. 20, 1976]

§ 174.102 Forbidden mixed loading and storage.

(a) Class A explosives and initiating or priming explosives may not be transported together in the same rail car. Additionally, they may not be transported or loaded in the same rail car or stored on carrier property with charged electric storage batteries or with any hazardous material for which a NONFLAMMABLE GAS, FLAMMABLE GAS, FLAMMABLE LIQUID, FLAMMABLE SOLID, OXIDIZER, ORGANIC PEROXIDE, RADIOACTIVE or CORROSIVE label is required.

(b) Explosives may not be loaded together or with other hazardous materials, except as provided in § 174.81. See § 174.104 for loading shipments of explosives or any other material in a placarded and certified car containing a shipment of Class A explosives.

§ 174.103 Disposition of damaged or astray shipments.

(a) Packages of explosives found damaged or broken in transit may be repaired when practicable and not dangerous. A broken box of high explosives that cannot be repaired must be reinforced by stout wrapping paper and twine, placed in another strong box and surrounded by dry, fine sawdust or dry and clean cotton waste or elastic wads made from dry newspapers. A ruptured can or keg must be sealed and enclosed in a strong cloth bag of good quality and boxed. Damaged packages thus protected and properly marked may be forwarded. The box and waybill must be marked to indicate that it has been repacked.

(b) Care must be exercised in repacking damaged containers so that no spark is produced by contact of metal or other hard surfaces which could ignite loose particles of explosive compositions that may be strewn on car floors or freight. In addition, the car floors must be thoroughly swept, and washed with a plentiful supply of water. Iron-wheel trucks, metal hammers, or other metal tools that may produce sparks may not be used. Metal tools must be limited to those made of brass, bronze, or copper.

(c) Each package of explosives showing evidence of leakage of liquid ingredients must:

(1) Be refused if leakage is discovered before acceptance.

(2) Be disposed of to a person who is competent and willing to remove them from the carrier's property, if the leakage is discovered while the shipment is in transit; or

(3) Be removed immediately by consignee, if the leakage is discovered at the shipment's destination.

(d) When the disposition required by paragraph (c) of this section cannot be made, the leaking package must be packed in other boxes large enough to permit enclosure and the leaking boxes must be surrounded by at least 2 inches of dry, fine sawdust or dry and clean cotton waste, and be stored in a station magazine or other safe place until the arrival of an inspector of the Bureau of Explosives, or other authorized person, to superintend the destruction or disposition of the condemned material.

(e) If careful inspection shows that an astray shipment of explosives is in proper condition for safe transportation, it must be forwarded immediately to its destination if known, or returned to the shipper by the most practicable route.

(f) When a package in an astray shipment is not in proper condition for safe transportation (see paragraphs (a), (c), and (d) of this section), or when the name and address of the consignee and the shipper are unknown, disposition must be made as prescribed by paragraphs (c) and (d) of this section.

§ 174.104 Class A explosives; car selection, preparation, inspection, and certification.

(a) Except as provided in § 174.101 (b), (n), and (o), Class A explosives being transported by rail may only be transported in a certified and properly placarded closed car of not less than 80,000 pounds capacity, with steel underframes and friction draft gear, except that on a narrow-gage railroad they may be transported in a car of less capacity so long as the car of greatest capacity and strength available is used.

(b) Each rail car used for transporting class A explosives must meet the following requirements as applicable:

(1) The car must be equipped with air brakes, hand brakes, and roller bearings which are in condition for service.

(2) The car may not have any holes or cracks in the roof, sides, ends, or doors through which sparks may enter, or unprotected decayed spots which may hold sparks and start a fire.

(3) The roof of the car must be carefully inspected from the outside for decayed spots, especially under or near the running board, and such spots must be covered or repaired to prevent their holding fire from sparks. A car with a roof generally decayed, even if tight, may not be used.

(4) The doors must close tightly so that sparks cannot get in at the joints, and, if necessary to achieve this degree of tightness, the doors must be stripped. The stripping should be placed on the inside and fastened to the door frames where it will form a shoulder against which the closed doors are pressed by means of wedges or cleats in door shoes or keepers. The openings under the doors should be similarly closed. The hasp fastenings must be examined with the doors closed and fastened, and the doors must be cleated when necessary to prevent them from shifting. When the car is opened for any reason, the wedges or cleats must be replaced before car containing explosives is permitted to proceed.

(5) The roller bearings and the trucks must be carefully examined and put in such condition as to reduce to a minimum the danger of hotboxes or other failure necessitating the setting out of the car before reaching its destination.

(6) The car must be carefully swept out before it is loaded. For less-than-carload shipments the space in which the packages are to be loaded must be carefully swept.

(7) Any holes in the floor or lining must be repaired and special care taken that there are no projecting nails or bolts or exposed pieces of metal which may work loose or produce holes in packages of explosives during transit. Protruding nails in the floor or lining which have worked loose must be drawn, and if necessary for the purpose of fastening the floor or lining, new nails must be driven through other parts thereof.

(8) Metal floor plates must be completely covered with wood, plywood, or fiber or composition sheets of adequate thickness and strength to prevent contact of the floor plates with the packages of explosives under conditions incident to transportation, except that the covering of metal floor plates is not necessary for carload shipments loaded by the Department of Defense provided the explosives are of such nature that they are not liable to leakage of dust, powder, or vapor which might become the cause of an explosion.

(9) If the car is equipped with automobile loading devices, it may not be used unless the loading device is securely attached to the roof of the car with fastenings supplementing those already provided and so fixed that it cannot fall.

(10) The car must be equipped with high-friction composition brake shoes only and brake rigging designed for this type of brake shoe. Each brake shoe on the car must be at least three-eighths inch thick, and in safe and suitable condition for service.

(11) The car must have either a metal subfloor with no combustible material exposed beneath the car, or metal spark shields extending from center sill to side sills and from end sills to at least 12 inches beyond the extreme treads of the inside wheels of each truck, which are tightly fitted against the subfloor so that there is no vacant space or combustible material exposed. The metal subfloor or spark shields may not have an accumulation of oil, grease, or other debris which could support combustion.

(c) Before Class A explosives may be loaded into a rail car, the car must have been inspected and certified to be in compliance with the requirements of paragraph (b) of this section by a qualified person designated under § 215.15 of this title. The certification shall be made in Car Certificate No. 1 on the form prescribed in paragraph (f) of this section.

(d) If the carrier furnishes the car to a shipper for loading Class A explosives, the shipper or his authorized employee shall, before commencing the loading of the car, inspect the interior thereof, and after loading certify to the proper condition of the car and the loading. This certification shall be made on the first signature line in Car Certificate No. 2 on the form prescribed in paragraph (f) of this section. In addition, the finished load must be inspected and certified to be in compliance with the requirements of this part by a qualified person designated under § 215.15 of this title before the car goes forward. This certification shall be made on the second signature line in Car Certificate No. 2 on the form prescribed in paragraph (f) of this section. If the loading is performed by the carrier, Car Certificate No. 2 may only be signed by a qualified person designated under § 215.15 of this title.

(e) If a trailer or container containing Class A explosives is loaded on a flatcar, the loading and securing of the load on the car must be supervised by a representative of the shipper or carrier. The certification shall be made in Car Certificate No. 3 on the form prescribed in paragraph (f) of this section.

(f) Each car certificate for use in connection with the inspection of rail cars for the carriage of Class A explosives shall be printed on strong tag board measuring 7 x 7 inches, or 6 x 8 inches. It must be duly executed in triplicate by the carrier, and by the shipper if he loads the shipment. The original must be filed by the carrier at the forwarding station in a separate file and the other two must be attached to the car, one to each outer side on a fixed placard board or as otherwise provided.

________________________ RAILROAD

CAR CERTIFICATE

No. 1 ____________ Station ____________ 19__.

I hereby certify that I have this day personally examined Car Number ____ and that the car is in condition for service and complies with the FRA Freight Car Safety Standards (49 CFR Part 215) and with the requirements for foreign cars used to transport explosives prescribed by the DOT Hazardous Materials Regulations (49 CFR Part 174).

Qualified Person Designated Under
49 CFR 215.15

No. 2 ____________ Station ____________ 19__.

I have this day personally examined the above car and hereby certify that the explosives in or on this car, or in or on vehicles or in containers have been loaded and braced; that placards have been applied, according to the regulations prescribed by the Department of Transportation; and that the doors of cars so equipped fit or have been stripped so that sparks cannot enter.

Shipper or his authorized agent

Qualified Person Designated Under
49 CFR 215.15

NOTE 1: A shipper must decline to use a car not in proper condition.

NOTE 2: Car certificates remaining on hand as of the effective date of these regulations may be used until stocks are exhausted but not after July 1, 1977.

I hereby certify that I have this day personally supervised the loading of the vehicles or containers on and their securement to the above car.

Shipper or railway employee inspecting
loading and securement

NOTE 1: All certificates, where applicable, must be signed.

[Amdt. 174-26, 41 FR 16092, Apr. 15, 1976, as amended by Amdt. 174-26A, 41 FR 40685, Sept. 20, 1976]

§ 174.105 Routing shipments, Class A explosives.

Before a shipment of Class A explosives destined to a point beyond the lines of the initial carrier is accepted from the shipper, the initial carrier shall ascertain that the shipment can go forward by the route designated. To avoid delays en route, the initial carrier must be in possession of full rate information before forwarding the shipment.

§ 174.106 "Order-Notify" or "C.O.D." shipments, Class A explosives.

(a) A carrier may not accept for transportation Class A explosives or blasting caps in any quantity when consigned to "order-notify" or "C.O.D.", except on a through bill of lading to a place outside the United States.

(b) A carrier may not accept for transportation Class A explosives or blasting caps which the shipper consigns to himself unless the shipper has a resident representative to receive them at the delivery point.

(c) A carrier may not accept Class A explosives for transportation subject to "stop-off privileges en route for partial loading or unloading."

§ 174.107 Shipping days for Class A explosives.

(a) When practicable, each carrier should designate regular days for receiving from shippers less-than-carload lots of Class A explosives for each station where the carrier accepts such shipments.

(b) To enable the carrier to provide proper cars at stations where less-than-carload shipments of Class A explosives are accepted for loading by the carrier, the shipper shall give to the carrier not less than 24-hours' notice of his intention to offer such shipments, and state their destinations. When a regular day to receive all explosives shipments offered at such a station has been designated, this notice may be waived by the carrier, but the explosives shipments must be delivered on such days in time to permit proper inspection, billing, and loading on that day.

§ 174.109 Non-agency shipments.

If a shipment of explosives is accepted by a carrier at a non-agency station, the shipper shall make provision for proper certification and placarding of cars, examination of shipments, and the loading and staying of packages in cars. Waybills, switching orders, switching tickets, or other shipping papers must be prepared as prescribed in Part 172 of this subchapter.

§ 174.110 Car magazine.

When specially authorized by the carrier, Class A explosives in quantity not exceeding 150 pounds may be carried in construction or repair cars if the packages of explosives are placed in a "magazine" box made of sound lumber not less than 1 inch thick, covered on the exterior with metal, and provided with strong handles. The box must be plainly stenciled on the top, sides, and ends, in letters not less than 2 inches high, "EXPLOSIVES—DANGEROUS—HANDLE CAREFULLY". The box must be provided with strong hinges and with a lock for keeping it securely closed. Vacant space in the box must be filled with a cushioning material such as sawdust or excelsior, and the box must be properly stayed to prevent movement within the car. The car must be placarded with EXPLOSIVES A placards when the magazine contains Explosives A.

[Amdt. 174-26, 41 FR 16092, Apr. 15, 1976, as amended by Amdt. 174-26A, 41 FR 40685, Sept. 20, 1976]

§ 174.112 Loading Class B explosives (Also see § 174.101).

(a) Class B explosives may not be loaded, transported or stored in a rail car equipped with any type of lighted heater or open-flame device, or in a rail car equipped with any apparatus or mechanism utilizing an internal combustion engine in its operation.

(b) Except as provided in § 174.101 (b), Class B explosives must be transported in a closed car or container car which is in good condition, and into which sparks cannot enter. The car does not require the car certificates prescribed in § 174.104(c)-(f). If the doors are not tight, they must be stripped to prevent the entrance of sparks. Wood floored cars must be equipped with spark shields (see § 174.104). Packages of Class B explosives must be blocked and braced to prevent their movement and possible damage due to movement of other freight during transportation. For recommended methods of blocking and bracing see Bureau of Explosives Pamphlet No. 6.

(c) Class B explosives may not be transported in a truck body, trailer, or container on a flatcar unless—

(1) The truck body, trailer, or container is closed and tight;

(2) All automatic heating or refrigerating machinery with which the truck body, trailer, or container is equipped is inoperative; and

(3) Packages of Class B explosives are blocked and braced within the truck body, trailer, or container to prevent their movement and possible damage due to movement of other freight during transportation (ends, sidewalls, or doors of the truck body, trailer, or container may not be relied on to prevent the shifting of heavy loads). For recommended methods of blocking and bracing see Bureau of Explosives Pamphlet No. 6C. See § 174.101(o).

§ 174.114 Record to be made of change of seals on "EXPLOSIVES A" laden cars.

(a) When a car seal is changed on a car requiring "EXPLOSIVES A" placards while en route or before delivery to a consignee, a record of the change showing the following information must be made on or attached to the waybill or other form of memorandum which must accompany the car to its destination:

Railroad Place Date

Car Initials Car Number

Number or description of seal broken------

Number or description of seal used to reseal car ----------------------------------

----
Reasons for opening car------------------

Condition of load------------------------

Name and occupation of person opening car

[Amdt. 174-26, 41 FR 16092, Apr. 15, 1976, as amended by Amdt. 174-26A, 41 FR 40685, Sept. 20, 1976]

§ 174.115 Loading Class C explosives.

(a) Class C explosives may be loaded into any closed car in good condition. With the exception of blasting caps and electric blasting caps, Class C explosives may be loaded into any container car in good condition. The car does not require the car certificates prescribed in § 174.104 (c)–(f). Packages of Class C explosives must be blocked and braced to prevent their movement and possible damage due to movement of other freight during transportation. For methods of recommended blocking and bracing see Bureau of Explosives Pamphlet No. 6.

(b) Class C explosives may not be transported in a truck body, trailer, or container on a flatcar unless—

(1) The truck body, trailer, or container is closed and tight;

(2) All automatic heating or refrigerating machinery with which the truck body, trailer, or container is equipped is inoperative; and

(3) Packages of Class C explosives are blocked and braced within the truck body, trailer, or container to prevent their movement and possible damage due to movement of other freight during transportation. Ends, side walls, or doors of the truck body, trailer, or container may not be relied on to prevent shifting of heavy loads. For recommended methods of blocking and bracing see Bureau of Explosives Pamphlet No. 6C.

Subpart F—Detailed Requirements for Gases

§ 174.200 Special handling requirements.

(a) Flammable gases may not be loaded, transported, or stored in a rail car equipped with any type of lighted heater or open-flame device, or in a rail car equipped with any apparatus or mechanism utilizing an internal combustion engine in its operation.

(b) Flammable gases may not be loaded in a truck body or trailer equipped with any type of lighted heater or any automatic heating or refrigerating apparatus when such truck bodies or trailers are loaded on flatcars except as provided in paragraph (c) of this section.

(c) Heating or refrigeration apparatus may be operated on a motor vehicle loaded on a flatcar when the motor vehicle is loaded with flammable gases only if—

(1) The lading space is not equipped with any electrical apparatus that is not non-sparking or explosion-proof;

(2) There is no combustion apparatus in the lading space;

(3) There is no connection for the return of air from the lading space to any combustion apparatus; and

(4) The heating system conforms to § 393.77 of this title and does not heat any part of the lading over 130 degrees F.

§ 174.201 Compressed gas cylinders.

(a) Except as provided in paragraphs (b) and (c) of this section, cylinders containing compressed gases being transported in a rail car must be—

(1) Securely lashed in an upright position so as to prevent their overturning;

(2) Loaded into racks securely attached to the car;

(3) Packed in boxes or crates of such dimensions as to prevent their overturning; or

(4) Loaded in a horizontal position.

(b) Specification DOT-4L (§ 178.57) cylinders being transported in a rail car must be loaded in an upright position and be securely braced.

(c) Cylinders containing compressed gases may be transported in stock cars, gondola cars and flat cars. However, they may not be transported in hopper bottom cars.

[Amdt. 174-26, 41 FR 16092, Apr. 15, 1976, as amended by Amdt. 174-26A, 41 FR 40685, Sept. 20, 1976]

§ 174.204 Tank car delivery of gases.

(a) A tank car containing compressed gas may not be unloaded unless it is consigned for delivery and unloaded on a private track (see § 171.8). However, if a private track is not available, it may be delivered and unloaded on carrier tracks subject to the following conditions:

(1) A tank car of DOT-106A or 110A type (§ 179.300 or § 179.301 of this subchapter) may not be delivered and the loaded unit tanks may not be removed from the car frame on carrier tracks. However, a carrier may give permission for the unloading of these containers on carrier tracks only if a private siding is not available within a reasonable trucking distance of the final destination. In addition, before the car is accepted for transportation, the shipper must obtain from the delivering carrier and file with the originating carrier, written permission for the removal and the consignee must furnish an adequately strong mechanical hoist by which the tanks can be lifted from the car and deposited directly upon vehicles furnished by the consignee for immediate removal from carrier property.

(2) Except for DOT-106A or 110A type tank cars (§ 179.300 or § 179.301 of this subchapter), a tank car containing anhydrous ammonia, liquefied hydrocarbon or liquefied petroleum gas, and having interior pipes of liquid and gas discharge valves equipped with check valves, may not be delivered and unloaded on carrier tracks, unless the lading is piped directly from the car to permanent storage tanks of sufficient capacity to receive the entire contents of the car. Such cars may also be stored on a private track or on carrier tracks designated by the carrier for such storage. (See § 171.8.)

[Amdt. 174-26, 41 FR 16092, Apr. 15, 1976, as amended by Amdt. 174-26A, 41 FR 40685, Sept. 20, 1976]

§ 174.208 Rail cars, truck bodies, or trailers with fumigated or treated lading.

(a) A carrier may not accept or transport a rail car or a rail car loaded with a truck body or trailer, containing lading which has been fumigated or treated with a flammable liquid or gas within the preceding 48 hours, unless the truck body or trailer and the car, in the case of a closed car, has been ventilated to remove any danger of fire or explosion due to the presence of flammable vapor.

(b) A rail car or a rail car loaded with a truck body or trailer containing lading which has been fumigated or treated with a poisonous liquid, gas, or solid, must be placarded on each door (or as close as possible to the door if it is not possible to placard the door) with the placard described in § 173.426 of this subchapter.

§ 174.280 Poison gases with foodstuffs.

A carrier may not transport any package of gaseous material bearing a poison label in the same car with material which is marked as or known to be foodstuff, feed, or any other edible material intended for consumption by humans or animals.

§ 174.290 Poison A shipped by, for, or to the Department of Defense.

(a) Poison A shipped by, for, or to the Department of Defense may be transported by rail only if it is loaded and handled in accordance with the requirements of this section.

(b) Poison A may be transported in—

(1) DOT-5A or WD-5A [1] metal drums, by boxcar, gondola car (flat bottom), or stock car in carload lots. See § 174.55(a)(1) through (4) and § 174.600 for blocking, bracing, and stowage requirements;

(2) Tanks which are authorized under this subchapter for Poison A, Specification DOT 106A (§§ 179.300 and 179.301 of this subchapter), mounted on or secured to a multi-unit car or gondola car (flat bottom) in carload lots only;

(3) Bombs, by boxcar, or gondola car (flat bottom) in carload lots only; or

(4) Projectiles or ammunition for cannon with gas filled projectiles, by boxcar in carload or less-than-carload lots.

(c) Each shipment of one or more carloads of Poison A, as described in paragraph (b) of this section, must be accompanied by a Department of Defense qualified escort supplied with equipment to handle leaks and other packaging failures which could result in escape of the gas. The escort shall remain with the shipment during the entire time that it is in the custody of the carrier and in the event of leakage or escape of gas, shall make repairs and perform decontamination as necessary.

(d) When Poison A is transported in a tank, the tank must be securely mounted on a rail car especially provided for it or on a gondola car prepared with substantial wooden frames and blocks.

(e) Bombs, projectiles, and cannon ammunition being transported by rail must be loaded, blocked and braced as shown in Bureau of Explosives Pamphlet No. 6A, or Department of Defense specifications. When a shipment is loaded in a gondola car it must be securely blocked and braced and not loaded higher than the sides of the car.

(f) When Poison A is transported in drums with filling holes in the heads, they must be loaded on their bottoms. They may be loaded in rows, lengthwise of the car and any space between the sides of the car and the nearest row of drums must be "filled in" with wooden boards or lumber nailed to sides of the car sufficient in length and width to contact both hoops of drums, or they may be loaded across the car in staggered stacks of which the number of drums in alternate stacks is reduced by one drum. All drums in stacks following the first stack loaded in the end of the car must be placed tightly into the angle of the space formed by the sidewalls of the drum in the preceding stack. Any space between the sides of the car and the drums in stacks having the greater number of drums must be filled in with wooden boards or lumber nailed to sides of the car sufficient in length and width to contact both hoops of the drums.

(g) When Poison A is transported in drums with filling holes in the sides, they must be loaded on their sides with the filling holes up. They must be loaded lengthwise of the car in rows and any space between the sides of the car and the nearest row of drums must be filled in with wooden boards or lumber nailed to sides of the car sufficient in length and width to contact both hoops of the drums.

(h) When Poison A is transported in drums in a boxcar, they must be loaded from ends of the car toward the space between the car doors, and there braced by center gates and wedges. See Sketch 1, Bureau of Explosives Pamphlet No. 6.

(i) The doorways of a boxcar in which Poison A is being transported must be protected by one of the methods prescribed in Sketch 1, Bureau of Explosives Pamphlet No. 6A.

[Amdt. 174-26, 41 FR 16092, Apr. 15, 1976, as amended by Amdt. 174-26A, 41 FR 40686, Sept. 20, 1976]

Subpart G—Detailed Requirements for Flammable Liquids

§ 174.300 Special handling requirements.

(a) Flammable liquids may not be loaded, transported, or stored in a rail car equipped with any type of lighted heater or open-flame device, or in a rail car equipped with any apparatus or mechanism utilizing an internal combustion engine in its operation.

(b) A truck body or trailer which is loaded with a flammable liquid and equipped with a lighted heater or any automatic heating or refrigerating apparatus may not be loaded on a flatcar except as provided in paragraph (c) of this section.

(c) Heating or refrigeration apparatus on a motor vehicle loaded with flammable liquids may be operated while the motor vehicle is loaded on a flatcar only if—

(1) The lading space is not equipped with any electrical apparatus that is not non-sparking or explosion-proof;

(2) There is no combustion apparatus in the lading space;

(3) There is no connection for the return of air from the lading space to any combustion apparatus; and

(4) The heating system conforms to § 393.77 of this title and does not heat any part of the lading over 130 degrees F.

(d) Cylinders containing pyrophoric liquids, unless packed in strong wooden boxes and secured therein to protect valves, must be stowed with all valves and safety relief devices in the vapor space and must be secured so that no shifting will occur during transportation.

(e) Metal barrels or drums containing flammable liquids may be transported in a steel gondola or flatcar or in a stock car. However, they may not be transported in a hopper bottom car.

§ 174.304 Flammable liquids in tank cars.

A tank car containing a flammable liquid, other than liquid road asphalt or tar, may not be transported by rail unless it is originally consigned or subsequently reconsigned to a party having a private track on which it is to be delivered and unloaded (see § 171.8) or to a party using railroad siding facilities which are equipped for piping the liquid from the tank car to permanent storage tanks of sufficient capacity to receive the entire contents of the car.

§ 174.380 Poisonous flammable liquids with foodstuffs.

A carrier may not transport any package of flammable liquid bearing a poison label in the same car with material which is marked as or known to be foodstuffs, feed, or any other edible material intended for consumption by humans or animals.

Subpart H—Detailed Requirements for Flammable Solids

§ 174.410 Special handling requirements for matches.

(a) Each carload lot of strike-anywhere (friction) matches must be loaded as compactly as possible to avoid motion within the car, especially lengthwise of the car. Protruding nails, metal band anchors or other projections on sidewalls, ends, door posts, studding, or car floors likely to puncture packages must be removed or adequately covered to prevent damage to the containers of matches. Car doorways must be boarded on the inside to keep the packages from contacting the doors, and the inside lining of the car must be supplemented when necessary by strips nailed to the car and close enough together to keep the boxes from being jammed against the studding and broken by high pressures on small areas. The strongest dimension of the box must be loaded lengthwise of the car. Partial layers of boxes must be interlocked with the lower layers. The cars used must be made secure against the entrance of sparks or rain.

(b) Each carload lot of strike-anywhere matches handled subject to stop-off privileges must be loaded in accordance with paragraph (a) of this section and when necessary the load must be rearranged or blocked and braced by each consignee before forwarding.

(c) Each less-than-carload lot of strike-anywhere matches must be loaded so that it cannot fall and so that other packages of freight cannot fall on or injure it. Whenever practicable the packages of matches must be placed so as to facilitate ready removal in case of fire.

(d) A carload or less-than-carload lot of strike-anywhere matches which has been damaged by fire, or by water in extinguishing a fire, in transit or on a carrier's property must be reloaded in properly prepared cars, and braced or blocked before being forwarded to destination, to a freight claim department or claim adjuster, or to the original shipper or other party for salvage. Care must be taken to examine and repair damaged outside packages before reloading into car. All loose matches must first be destroyed. Individual interior boxes and paper-wrapped cartons or packages, must then be carefully placed in tight outside packages complying, as nearly as practical, with container specifications, but under no condition shall the outside package be of less strength than required by Specification 15A or 12C (§§ 178.168, 178.206 of this subchapter), nor of greater capacity than authorized. Charred cases may not be used. Boards used in repairing wooden cases must be so nailed that they will not allow any interior boxes, cartons, or packages to fall out. If the individual boxes or paper-wrapped packages do not fit snugly in the outside package, the vacant spaces must be filled tightly with dry and clean cotton waste, or elastic wads of dry newspapers or dry waste paper.

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[1] War Department specification container.

[Amdt. 174-26, 41 FR 16092, Apr. 15, 1976, as amended by Amdt. 174-26A, 41 FR 40686, Sept. 20, 1976]

§ 174.450 Fires.

(a) *Cotton.* When fire occurs in a rail shipment of cotton in transit at a point where it cannot be reconditioned and where arrangements cannot be made with the originating carrier to sell it, all burnt cotton in the shipment must be stored under observation in as safe a place as practicable where it shall be held for not less than 10 days after all evidence of fire has been extinguished before forwarding. The billing must be changed to read "Burnt Cotton" and the cotton must be forwarded as a hazardous material. (See § 173.159 of this subchapter.)

(b) *Charcoal.* When fire occurs in a rail shipment of charcoal in transit, water should not be used if it is practicable to locate and remove the burning charcoal. Any charcoal which has become wet in extinguishing a fire must be removed from the car and not reshipped and the remainder of the charcoal must be held under observation in a dry place for at least five days before forwarding.

§ 174.480 Poisonous flammable solids with foodstuffs.

A carrier may not transport any package of oxidizer material bearing a poison label in the same car with material which is marked as or known to be foodstuffs, feed, or any other edible material intended for consumption by humans or animals.

Subpart I—Detailed Requirements for Oxidizers

§ 174.510 Special handling requirements for nitrates.

A nitrate listed in § 173.182(b) of this subchapter being transported by rail may only be transported in a clean closed car, which is free of loose boards, cracks, holes, and exposed decayed spots. The interior of the car must be swept clean and be free of any projections capable of damaging bags when the nitrate is so packaged. The doors of the car must have tight closures. Ammonium nitrate (no organic coating), ammonium nitrate fertilizer (materials tested in accordance with and meeting the definition in the Fertilizer Institute's publication "Definition and Test Procedures for Ammonium Nitrate Fertilizer", dated May 7, 1971), ammonium nitrate mixed fertilizer, or ammonium nitrate phosphate may be transported in bulk in a clean covered hopper car having journals and boxes in good condition.

§ 174.515 Cleaning cars; postassium permanganate.

After potassium permanganate is unloaded from a rail car, the car must be thoroughly cleaned unless the car is used exclusively in the carriage of potassium permanganate.

§ 174.580 Poisonous oxidizers with foodstuffs.

A carrier may not transport any package of oxidizer material bearing a poison label in the same car with material which is marked as or known to be foodstuff, feed, or any other edible material intended for consumption by humans or animals.

[Amdt. 174-26, 41 FR 16092, Apr. 15, 1976, as amended by Amdt. 174-26A, 41 FR 40686, Sept. 20, 1976]

Subpart J—Detailed Requirements for Poisonous Materials

§ 174.600 Special handling requirements for Poison A materials.

A tank car containing Poison A may not be transported by rail unless it is originally consigned or subsequently reconsigned to a party having a private track on which it is to be delivered and unloaded (see § 171.8) or to a party using railroad siding facilities which are equipped for piping the liquid or gas from the tank car to permanent storage tanks or sufficient capacity to receive the entire contents of the car.

§ 174.615 Cleaning cars.

(a) A rail car which has contained arsenic, arsenate of lead, sodium arsenate, calcium arsenate, Paris green, calcium cyanide, potassium cyanide, sodium cyanide, or other poisonous materials which show any evidence of leakage from packages, must be thoroughly cleaned after unloading before the car is returned to service.

(b) After poisonous materials are unloaded from a rail car, that car must be thoroughly cleaned unless the car is used exclusively in the carriage of poisonous materials.

§ 174.680 Poisons with foodstuffs.

A carrier may not transport any package of material bearing a poison label in the same car with material which is marked as or known to be foodstuffs, feed, or any other edible material intended for consumption by humans or animals.

[Amdt. 174-26, 41 FR 16092, Apr. 15, 1976, as amended by Amdt. 174-26A, 41 FR 40686, Sept. 20, 1976]

Subpart K—Detailed Requirements for Radioactive Materials

§ 174.700 Special handling requirements for radioactive materials.

(a) Each rail shipment of low specific activity materials as defined in § 173.389 (c) of this subchapter must be loaded so as to avoid spillage and scattering of loose material. Loading restrictions are prescribed in § 173.392 of this subchapter.

(b) The number of packages of radioactive materials that may be transported in any rail car or stored at any single location is limited to that number which does not make a total transport index number (as defined in § 173.389(j) of this subchapter, and determined by adding together the transport index numbers on the labels of the individual packages) of more than 50. This provision does not apply to exclusive use shipments as described in §§ 173.389(o) and 173.392, 173.393(j), or 173.396(f).

(c) Each package of radioactive material bearing RADIOACTIVE YELLOW-II or RADIOACTIVE YELLOW-III labels when being placed in a rail car, depot, or other place may not be placed closer than three feet to an area (or dividing partition between areas) which may be continuously occupied by any passenger, rail employee, or shipment of animals, nor closer than 15 feet to any package containing undeveloped film (if so marked). If more than one package of radioactive materials is present, the distance must be computed from the table below on the basis of the total transport index number (determined by adding together the transport index numbers on the labels of the individual packages) of packages in the car or storeroom:

Total transport index	Minimum separation distance in feet to nearest undeveloped film[1]	Minimum distance in feet to area of persons, or minimum distance in feet from dividing partition of a combination car[2]
None	0	0
0.1 to 10.0	15	3
10.1 to 20.0	22	4
20.1 to 30.0	29	5
30.1 to 40.0	33	6
40.1 to 50.0	36	7

[1] In feet to nearest undeveloped filmed.

[2] In feet to area of persons, or minimum distance in feet from dividing partition of a combination car.

NOTE.—The distance in the table must be measured from the nearest point on the packages of radioactive materials.

(d) Each fissile Class III radioactive material shipment (as defined in § 173.389(a)(3) of this subchapter) must be transported in accordance with one of the methods prescribed in § 173.396 (g) of this subchapter. The transport controls must be adequate to assure that no fissile Class III shipment is transported in the same rail car with any other fissile radioactive material shipment. In loading and storage areas each fissile Class III shipment must be segregated by a distance of at least 20 feet from other packages required to bear one of the "radioactive" labels described in Part 172 of this subchapter.

(e) Only a flatcar may be used to transport radioactive materials in a container weighing 15,000 pounds or more. A gondola car (other than a drop bottom car) may be used to transport any of the following:

(1) Radioactive material in a container weighing 5,000 pounds or more;

containers of solid radioactive material.

(2) Strong wooden boxes with inside securely braced and cushioned; or

(3) Radioactive material in concrete-filled metal drums or in concrete vaults weighing 700 pounds or more.

(f) A person may not remain unnecessarily in a rail car containing radioactive materials.

[Amdt. 174–26, 41 FR 16092, Apr. 15, 1976, as amended by Amdt. 174–26A, 41 FR 40686, Sept. 20, 1976]

§ 174.715 Cleanliness of cars after use.

Each transport vehicle used for transporting radioactive materials as exclusive use, as defined in § 173.389(e), must be surveyed with appropriate radiation detection instruments after each use. A vehicle may not be returned to service until the radiation dose rate at any accessible surface is 0.5 millirem per hour or less, and there is no significant removable radioactive surface contamination, as defined in paragraph (a) of this section.

(b) This section does not apply to any rail car used solely for transporting radioactive materials if a survey of the interior surface of the car shows that the radiation dose rate does not exceed 10 millirem per hour at the interior surface or 2 millirem per hour at 3 feet from any interior surface. The car must be stenciled with the words "FOR RADIOACTIVE MATERIALS USE ONLY" in lettering at least 3 inches high in a conspicuous place on both sides of the exterior of the car and it must be kept closed at all times other than during loading and unloading.

[Amdt. 174–26, 41 FR 16092, Apr. 15, 1976, as amended by Amdt. 174–26A, 41 FR 40686, Sept. 20, 1976]

§ 174.750 Incidents involving leakage.

(a) In addition to the incident reporting requirements of §§ 171.15 and 171.16 of this subchapter, the carrier shall also notify the shipper at the earliest practicable moment following any incident in which there has been breakage, spillage, or suspected radioactive contamination involving radioactive materials shipments. Vehicles, buildings, areas, or equipment in which radioactive materials have been spilled may not be again placed in service or routinely occupied until the radiation dose rate at any accessible surface is less than 0.5 millirem per hour and there is no significant removable radioactive surface contamination (see § 173.397 of this subchapter).

(b) The package or materials should be segregated as far as practicable from personnel contact. If radiological advice or assistance is needed, the Energy Research and Development Administration (ERDA) should also be notified. In case of obvious leakage, or if it appears likely that the inside container may have been damaged, care should be taken to avoid inhalation, ingestion, or contact with the radioactive material. Any loose radioactive materials should be left in a segregated area and held pending disposal instructions, from qualified persons. Information involving the handling of radioactive materials in the event of a wreck may be found in Bureau of Explosives Pamphlet No. 1 and No. 2.

Subpart L—Detailed Requirements for Corrosive Materials

§ 174.800 Special handling requirements for corrosive materials.

(a) Carboys of corrosive liquids may not be transported by rail in a container car. Packages of corrosive liquids being transported in a rail car must be loaded, blocked, and braced so that they cannot change position during transportation due to shocks normally incident to transportation. Car doors may be cleated in an open position. Carboys of acid may be transported on a flat or stock car.

(b) When a less-than-carload shipment of corrosive liquids is loaded in a rail car with other freight, the carboys must be placed near the doorway of the car and must have wooden strips not less than 3 inches in height nailed to the car floor about 8 inches from the bracing. These strips must be arranged so that the liquid from a broken carboy will drain toward the doorway and outside the car. The space between the strips and the floor braces or blocking used for staying the carboy boxes must be covered with at least 1 inch thickness of clean and dry sand or earth, not sawdust or other combustible material.

(c) A carrier may not accept any carboy previously used for the shipment of corrosive liquids for transportation as an empty carboy unless it has been thoroughly and completely drained. The carrier must handle them with the necks up.

§ 174.810 Special handling requirements for wet electric storage batteries.

(a) Electric storage batteries (wet) for shipment by rail must be completely protected so that short circuits will be prevented and may not be loaded or stored with explosives.

(b) Wet electric storage batteries, and electrolyte must be packed as required by § 173.258 of this subchapter for transportation by rail and must be blocked and braced in the rail car so they cannot change position during transportation due to shocks normally incident to transportation. They must be loaded so that other freight cannot fall onto or slide against them. They may be transported in a gondola car or on a flatcar. However, they may not be transported in a hopper bottom car.

(c) Wet electric storage batteries are not authorized in refrigerator or "plug-door" type cars.

[Amdt. 174–26, 41 FR 16092, Apr. 5, 1976, as amended by Amdt. 174–26A, 41 FR 40686, Sept. 20, 1976]

§ 174.812 Special handling requirements for nitric acid.

(a) Carboys of nitric acid may not be transported in a boxcar or in a truck body or trailer on a flatcar more than two tiers high except that completely boxed carboys, DOT–1D, may be loaded three tiers high.

(b) Nitric acid, being transported by rail, with other corrosive liquids in carboys, must be separated from the other carboys. A 2 x 6 inch plank, set on edge, must be nailed across the car floor at least 12 inches from the nitric acid carboys and the space between the plank and the carboys of nitric acid must be filled with sand, sifted ashes, or other noncombustible absorbent material.

[Amdt. 174–26, 41 FR 16092, Apr. 15, 1976, as amended by Amdt. 174–26A, 41 FR 40686, Sept. 20, 1976]

PART 175—CARRIAGE BY AIRCRAFT

Subpart A—General Information and Regulations

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AUTHORITY: (49 U.S.C. 1471, 1472(h)(1), 1807), 49 CFR 1.53(h).

AUTHORITY: 49 U.S.C. 1803, 1804, 1808; 49 CFR 1.53(e).

EFFECTIVE DATE NOTE: The above authority citation becomes effective Jan. 3, 1977.

SOURCE: Amdt. 175–1, 41 FR 16106, Apr. 15, 1976, unless otherwise noted.

EFFECTIVE DATE NOTE: (1) Except as provided in paragraphs (2) through (4), compliance with the provisions of this amendment is not mandatory until January 1, 1977.

(2) Compliance with the provisions of this amendment pertaining to the information required to appear on a shipping paper or the format of a shipping paper, is not mandatory until July 1, 1977. (See note to 49 CFR 172.204(a) regarding delayed compliance with that section's required use of a newly worded shipper's certification.)

(3) A package filled, marked or labeled before July 1, 1976, in accordance with regulations in effect on June 30, 1976, may be offered for transportation and transported, even though it does not comply with the package, marking and labeling provisions of this amendment, if it (i) is offered for transportation before July 1, 1977, and (ii) complies with the package, marking and labeling regulations in effect on June 30, 1976.

(4) Compliance with the provisions of this amendment appearing in Subpart F of Part 172 (Placarding) is not mandatory until July 1, 1977.

(5) Under the authority of any of the preceding four numbered paragraphs:

(i) When a provision of this amendment is not complied with, the comparable provision (if any) of the regulations in effect on June 30, 1976, shall be complied with; however,

(ii) The hazard class and description of a material indicated on a shipping paper must be the same as the hazard class indicated on the label (if any) displayed, and the description marked, on the package containing that material.

(6) For purposes of the application of Part 174 (except § 174.25) to rail cars from July 1, 1976, to July 1, 1977, placards specified in this amendment, and placards specified under regulations in effect on June 30, 1976, may be treated as equivalent according to the following table:

Hazard class (material)	Placard adopted under docket No. HM–103/112	Equivalent placard required by pt. 174 on June 30, 1976
Explosives A	EXPLOSIVES A	EXPLOSIVES.
Explosives B	EXPLOSIVES B	DANGEROUS.
Explosives C	FLAMMABLE	None.
Flammable liquid	FLAMMABLE	DANGEROUS.
Flammable solid	FLAMMABLE SOLID	DANGEROUS.
Oxidizer	OXIDIZER	DANGEROUS.
Corrosive liquid	CORROSIVE	DANGEROUS.
Nonflammable gas	NONFLAMMABLE GAS	DANGEROUS.
Flammable gas	FLAMMABLE GAS	DANGEROUS.
Poison A	POISON GAS	POISON GAS.
Poison B	POISON	DANGEROUS.
Radioactive material	RADIOACTIVE	DANGEROUS—RADIOACTIVE MATERIAL.
Organic peroxide	ORGANIC PEROXIDE	DANGEROUS.
(Chlorine)	CHLORINE	DANGEROUS.
(Oxygen, pressurized liquid)	OXYGEN	DANGEROUS.

(7) This amendment does not terminate any outstanding exemption issued under 49 CFR, Part 107 or its predecessor authorities. Any exemption in effect on June 30, 1976, which is modified or replaced by this amendment, continues in effect:

(i) By its own terms, to the extent that continued compliance with that regulatory requirement is required or authorized by this amendment; and

(ii) For any provision of this amendment which is equivalent to that regulatory requirement.

Subpart A—General Information and Regulations

§ 175.1 Purpose and scope.

This part prescribes requirements, in addition to those contained in Parts 171, 172 and 173 of this subchapter, to be observed by aircraft operators with respect to the transportation of hazardous materials aboard (including attached to or suspended from) civil aircraft.

§ 175.3 Unacceptable hazardous materials shipments.

A shipment of hazardous materials that is not prepared for shipment in accordance with Parts 172 and 173 of this subchapter may not be accepted for transportation or transported aboard an aircraft.

§ 175.5 Applicability.

This part contains regulations pertaining to the acceptance of hazardous materials for transportation, and the loading and transportation of hazardous materials, in any civil aircraft in the United States and in civil aircraft of United States registry anywhere in air commerce, except aircraft of United States registry under lease to and operated solely by foreign nationals outside the United States.

§ 175.10 Exceptions.

(a) This part does not apply to—

(1) Aviation fuel and oil in tanks that are in compliance with the installation provisions of 14 CFR, Chapter 1.

(2) Aircraft parts, equipment, and supplies (other than fuel) carried by an aircraft operator if authorized or required aboard his aircraft for their operation including:

(i) Fire extinguishers;

(ii) Cylinders containing compressed gases;

(iii) Aerosol dispensers;

(iv) Distilled spirits;

(v) Hydraulic accumulators;

(vi) Non-spillable batteries;

(vii) First-aid kits;

(viii) Signaling devices;

(ix) Tires; and

(x) Items of replacement therefor, except that batteries, aerosol dispensers, and signaling devices must be packed in strong outside containers, and tires must be deflated to a pressure not greater than 100 p.s.i.g.

(3) Hazardous materials loaded and carried in hoppers or tanks of aircraft certificated for use in aerial seeding, dusting, spraying, fertilizing, crop improvement, or pest control, to be dispensed during such an operation.

(4) Medicinal and toilet articles carried by a crewmember or passenger in his baggage (including carry-on baggage) when:

(i) The total capacity of all the containers used by a crewmember or passenger does not exceed 75 ounces (net weight ounces and fluid ounces);

(ii) The capacity of each container other than an aerosol container does not exceed 16 fluid ounces or 1 pound of material.

(5) Small-arms ammunition for personal use carried by a crewmember or passenger in his baggage (excluding carry-on baggage) if securely packed in fiber, wood, or metal boxes.

(6) Prior to May 3, 1977, radioactive materials which meet those requirements in § 173.391 of this subchapter, in effect on May 3, 1975, that exempt them from the packaging, marking, and labeling requirements for shipment by rail express.

(7) Oxygen, or any hazardous material used for the generation of oxygen, carried for medical use by a passenger in accordance with 14 CFR § 121.574 or § 135.114.

(8) Human beings and animals with an implanted medical device, such as a heart pacemaker, that contains radioactive material or with radiopharmaceuticals that have been injected or ingested.

(9) Smoke grenades, flares, or similar devices carried only for use during a sport parachute jumping activity.

(10) Personal smoking materials intended for use by any individual when carried on his person except lighters with flammable liquid reservoirs and containers containing lighter fluid for use in refilling lighters.

[Amdt. 175–1, 41 FR 16106, Apr. 15, 1976, as amended by Amdt. 175–1A, 41 FR 40686, Sept. 20, 1976]

§ 175.20 Compliance.

Unless the regulations in this subchapter specifically provide that another person must perform a duty, each operator shall comply with all the regulations in Parts 102, 171, 172, and 175 of this subchapter and shall thoroughly instruct his employees in relation thereto. (See 14 CFR §§ 121.135, 121.401, 121.433a, 135.27 and 135.140.)

§ 175.30 Accepting shipments.

(a) No person may accept a hazardous material for transportation aboard an aircraft unless the hazardous material is—

(1) Authorized, and is within the quantity limitations specified for carriage aboard aircraft according to § 172.101 of this subchapter;

(2) Described and certified on a shipping paper prepared in duplicate in accordance with Subpart C of Part 172 of this subchapter. The originating aircraft operator must retain one copy of each shipping paper for 90 days;

(3) Labeled and marked, or placarded (when required), in accordance with Subparts D, E and F of Part 172 of this subchapter; and

(4) Labeled with a "CARGO AIRCRAFT ONLY" label (see § 172.448 of this subchapter) if the material as presented is not permitted aboard passenger-carrying aircraft.

(b) Except as provided in paragraph (c), no person may carry any hazardous material aboard an aircraft unless, prior to placing the material aboard the aircraft, the operator of the aircraft has inspected the package, or the outside container prepared in accordance with § 173.25 of this subchapter which contains the material, and has determined that—it has no dents, holes, leakage, or other indication that its integrity has been compromised, and for radioactive materials that the package seal has not been broken.

(c) The requirements of paragraph (b) of this section do not apply to ORM-

D materials packed in a freight container and offered for transportation by one consignor.

[Amdt. 175–1, 41 FR 16106, Apr. 15, 1976, as amended by Amdt. 175–1A, 41 FR 40686, Sept. 20, 1976]

§ 175.33 Notification of pilot-in-command.

When materials subject to the provisions of this subchapter are carried in an aircraft, the operator of the aircraft shall give the pilot-in-command the following information in writing before takeoff:

(a) The information required by §§ 172-202 and 172.203 of this subchapter;

(b) The location of the hazardous material in the aircraft; and

(c) The results of the inspection required by § 175.30(b).

[Amdt. 175–1A, 41 FR 40686, Sept. 20, 1976]

§ 175.35 Shipping papers aboard aircraft.

(a) A copy of the shipping papers required by § 175.30(a)(2) must accompany the shipment it covers during transportation aboard an aircraft.

(b) The documents required by paragraph (a) of this section and § 175.33 may be combined into one document if it is given to the pilot-in-command before departure of the aircraft.

§ 175.40 Keeping and replacement of labels.

(a) Aircraft operators who engage in the transportation of hazardous materials must keep an adequate supply of the labels specified in Subpart E of Part 172 of this subchapter, on hand at each location where shipments are loaded aboard aircraft.

(b) Lost or detached labels for packages of hazardous materials must be replaced in accordance with the information provided on the shipping papers.

§ 175.45 Reporting hazardous materials incidents.

(a) Each operator that transports hazardous materials shall report to the nearest Air Carrier District Office (ACDO), Flight Standards District Office (FSDO), General Aviation District Office (GADO) or other FAA facility, except that in place of reporting to the nearest of those facilities a certificate holder under 14 CFR Part 121, 127, or 135 may report to the FAA District Office holding the carrier's operating certificate and charged with overall inspection of its operations, by telephone at the earliest practicable moment after each incident that occurs during the course of transportation (including loading, unloading or temporary storage) in which as a direct result of any hazardous material—

(1) A person is killed;

(2) A person receives injuries requiring his or her hospitalization;

(3) Estimated carrier or other property damage, or both, exceeds $50,000;

(4) Fire, breakage, or spillage or suspected radioactive contamination occurs involving shipment of radioactive materials (see § 175.700(b));

(5) Fire, breakage, spillage, or suspected contamination occurs involving shipment of etiologic agents. In addition to the report required by paragraph (a) of this section, a report on an incident involving etiologic agents should be telephoned directly to the Director, Center for Disease Control, U.S. Public Health, Atlanta, Georgia, area code 404–633–5313; or

(6) A situation exists of such a nature that, in the judgment of the carrier, it should be reported to the Department even though it does not meet the criteria of subparagraphs (1), (2), or (3) of this paragraph, e.g., a continuing danger to life exists at the scene of the incident.

(7) If the operator conforms to the provisions of this section, the carrier requirements of § 171.15 except § 171.15(c) of this subchapter shall be deemed to have been satisfied.

(b) The following information shall be furnished in each report:

(1) Name of reporting person;

(2) Name and address of carrier represented by reporter;

(3) Phone number where reporter can be contacted;

(4) Date, time, and location of incident;

(5) The extent of the injuries, if any; and

(6) Classification, name and quantity of hazardous material involvement and whether a continuing danger to life exists at the scene.

(c) Each operator who transports hazardous materials shall report in writing, in duplicate, on DOT Form F 5800.1 within 15 days of the date of discovery, each incident that occurs during the course of transportation (including loading, unloading, or temporary storage) in which, as a direct result to hazardous materials, any of the circumstances set forth in paragraph (a) of this section occurs or their has been an unintentional release of hazardous materials from a package. Each operator making a report under this section shall send that report to the Materials Transportation Bureau, Office of Hazardous Materials Operations, Department of Transportation, Washington, D.C. 20590, with a separate copy to the FAA facility indicated in paragraph (a) of this section.

[Amdt. 175–1, 41 FR 16106, Apr. 15, 1976, as amended by Amdt. 175–1A, 41 FR 40686, Sept. 20, 1976]

Subpart B—Loading, Unloading and Handling

§ 175.75 Quantity limitations aboard aircraft.

(a) Except as provided in § 175.85(b), no person may carry on an aircraft—

(1) A hazardous material except as permitted in Part 172 of this subchapter;

(2) More than 50 pounds net weight of hazardous material (and in addition thereto, 150 pounds net weight of nonflammable compressed gas) permitted to be carried aboard passenger-carrying aircraft—

(i) In an inaccesible cargo compartment,

(ii) In any freight container within an accessible cargo compartment, or

(iii) In any accessible cargo compartment in a cargo-only aircraft in a manner that makes it inaccessible unless in a freight container;

(3) Packages containing radioactive materials when their combined transport indices exceed 50.

(b) No limitation applies to the number of packages of ORM material aboard an aircraft.

[Amdt. 175–1A, 41 FR 40686, Sept. 20, 1976]

§ 175.78 Stowage compatibility of cargo.

No person may stow a package of a corrosive material on an aircraft next to or in a position that will allow contact with a package of flammable solids, oxidizing materials, or organic peroxides.

§ 175.79 Orientation of cargo.

(a) A package containing hazardous materials marked "THIS SIDE UP", "THIS END UP", or with arrows to indicate the proper orientation of the package, must be stored, loaded abroad an aircraft in accordance with such markings, and secured in a manner that will prevent any movement which would change the orientation of the package.

(b) A package containing liquid hazardous materials not marked as indicated in paragraph (a) of this section must be stored and loaded with closures up.

§ 175.85 Cargo location.

(a) No person may carry a hazardous material subject to the requirements of this subchapter in the cabin of a passenger-carrying aircraft.

(b) Each person carrying materials acceptable only for cargo-only aircraft shall carry those materials in a location accessible to a crewmember during flight. However, when materials acceptable for cargo-only or passenger carrying aircraft are carried on a small, single pilot, cargo-only aircraft being used where other means of transportation are impracticable or not available, they may be carried without quantity limitation as specified in § 175.75 in a location that is not accessible to the pilot subject to the following conditions.

(1) No person other than the pilot, an FAA inspector, the shipper or consignee of the material or a representative of the shipper or consignee so designated in writing, or a person necessary for handling the material may be carried on the aircraft.

(2) The pilot must be provided with written instructions on characteristics and proper handling of the material.

(3) Whenever a change of pilots occurs while the material is on board, the new pilot must be briefed under a hand-to-hand signature service provided by the operator of the aircraft.

(c) No person may load magnetized material (which might cause an erroneous magnetic compass reading) on an aircraft, in the vicinity of a magnetic compass, or compass master unit, that is a part of the instrument equipment of the aircraft, in a manner that affects its operation. If this requirement cannot be met, a special aircraft swing and compass calibration may be made. No person loading magnetized materials may obscure the warning labels.

(d) No person may carry materials subject to the requirements of this subchapter in an aircraft unless they are suitably safeguarded to prevent their becoming a hazard by shifting. For packages bearing "RADIOACTIVE YELLOW-II" or "RADIOACTIVE YELLOW-III" labels, such safeguarding must prevent movement that would permit the package to be closer to a space that is occupied by a person or an animal than is permitted by § 175.700.

(e) No person may carry a material subject to the requirements of this subchapter that is acceptable for carriage in a passenger-carrying aircraft (other than magnetized materials) unless it is located in the aircraft in a place that is inaccessible to persons other than crewmembers.

[Amdt. 175-1, 41 FR 16106, Apr. 15, 1976, as amended by Amdt. 175-1A, 41 FR 40686, Sept. 20, 1976]

§ 175.90 Damaged shipments.

Except as provided for in § 175.700, the operator of an aircraft shall remove from the aircraft any package subject to this subchapter that appears to be damaged or leaking. No person shall place or transport a package that is damaged or appears to be damaged or leaking aboard an aircraft subject to this part.

Subpart C—Specific Regulations Applicable According to Classification of Material

§ 175.305 Self-propelled vehicles.

(a) Self-propelled vehicles are exempt from the drainage requirements of § 173.120 of this subchapter when carried in aircraft designed or modified for vehicle ferry operations and when all of the following conditions are met:

(1) Authorization for this type operation has been given by the appropriate authority in the government of the country in which the aircraft is registered;

(2) Each vehicle is secured in an upright position;

(3) Each fuel tank is filled in a manner and only to a degree that will preclude spillage of fuel during loading, unloading, and transportation; and

(4) Ventilation rates to be maintained in the vehicle storage compartment have been approved by the appropriate authority in the government of the country in which the aircraft is registered.

§ 175.310 Transportation of flammable liquid fuel in small, passenger-carrying aircraft.

A small aircraft or helicopter operated entirely within the State of Alaska or into a remote area elsewhere in the United States may carry, in other than scheduled passenger operations, not more than 20 gallons of flammable liquid fuel, if—

(a) Transportation by air is the only practical means of providing suitable fuel;

(b) The flight is necessary to meet the needs of a passenger;

(c) The fuel is carried in metal containers that are either—

(1) DOT Specification 2A containers of not more than 5 gallons capacity, each packed inside a DOT Specification 12B fiberboard box or each packed inside a DOT Specification 15A, 15B, 15C, 16A, 19A or 19B wooden box, or in the case of a small aircraft in Alaska, each packed inside a wooden box of at least one-half inch thickness;

(2) Airtight, leakproof, inside containers of not more than 10 gallons capacity and of at least 28-gauge metal, each packed inside a DOT Specification 15A, 15B, 15C, 16A, 19A, or 19B wooden box or, in the case of a small aircraft in Alaska, each packed inside a wooden box of at least one-half inch thickness;

(3) DOT Specification 17E containers of not more than 5 gallons capacity; or

(4) Fuel tanks attached to flammable liquid fuel powered equipment under the following conditions:

(i) Each piece of equipment is secured in an upright position;

(ii) Each fuel tank is filled in a manner that will preclude spillage of fuel during loading, unloading, and transportation; and

(iii) ventilation rates which are maintained in the compartment in which the equipment is carried have been approved by the FAA district office responsible for inspection and surveillance of the aircraft on which the equipment is carried.

(d) In the case of a helicopter, the fuel is carried on external cargo racks;

(e) The area or compartment in which the fuel is loaded is ventilated so as to prevent the accumulation of fumes;

(f) Before each flight, the pilot-in-command—

(1) Informs each passenger of the location of the fuel and the hazards involved; and

(2) Prohibits smoking, lighting matches, the carrying of any lighted cigar, pipe, cigarette or flame, and the use of anything that might cause an open flame or spark, while loading or unloading or in flight; and

(g) Fuel is transferred to the fuel tanks only while the aircraft is on the surface.

[Amdt. 175-1, 41 FR 16106, Apr. 15, 1976, as amended by Amdt. 175-1A, 41 FR 40686, Sept. 20, 1976]

§ 175.320 Cargo-only aircraft; only means of transportation.

(a) Notwithstanding § 172.101, when means of transportation other than air are impracticable or not available, hazardous materials listed in the following table may be carried on a cargo-only aircraft subject to the conditions stated in the table and in paragraph (b) and, when appropriate, paragraph (c) of this section:

Material description	Class	Conditions
Electric blasting caps (more than 1,000).	Class A explosives	Permitted only when no other cargo is aboard the aircraft. However, if the electric blasting caps are packed in an IME 22 container (see 49 CFR 171.7(d)(9)), they may be transported in the same aircraft with materials that are not classed as hazardous materials.
Electric blasting caps (1,000 or less).	Class C explosives	Permitted only when no other cargo is aboard the aircraft. However, if the electric blasting caps are packed in a DOT MC 201 container (49 CFR 178.318) or an IME 22 container (see 49 CFR 171.7(d)(9)), they may be transported in the same aircraft with materials other than class A or class B explosives.
Gasoline	Flammable liquid	Permitted in metal drums having rated capacities of 55 gal or less. May not be transported in the same aircraft with materials classed as class A, B, or C explosives, corrosive materials, or oxidizing materials. Permitted in installed tanks each having a capacity of more than 110 gal subject to the conditions specified in para. (c) of this section.
High explosives	Class A explosives	Limited to explosives to be used for blasting. Permitted only when no other cargo is aboard the aircraft or when being transported in the same aircraft with an authorized shipment of any 1 or more of the following materials to be used for blasting: Nitrocarbonitrate. Cordeau detonant fuse. Propellant explosive (solid) class B (water gels only). Propellant explosive (liquid) class B (water gels only).
Oil, n.o.s.; petroleum oil; or petroleum oil, n.o.s.	Flammable liquid	Permitted in metal drums having rated capacities of 55 gal or less. May not be transported in the same aircraft with materials classed as class A, B, or C explosives, corrosive materials, or oxidizing materials. Permitted in installed tanks each having a capacity of more than 110 gal subject to the conditions specified in para. (c) of this section.
Combustible liquid, n.o.s.	Combustible liquid	Permitted in installed tanks each having a capacity of more than 110 gal subject to the conditions specified in par. (c) of this section.

(b) The following conditions apply to the carriage of hazardous materials performed under the authority of this section:

(1) No person other than a required flight crewmember, an FAA inspector, the shipper or consignee of the material or a representative of the shipper or consignee so designated in writing, or a person necessary for handling the material may be carried on the aircraft.

(2) The operator of the aircraft must have advance permission from the owner or operator of each manned airport where the material is to be loaded or unloaded or where the aircraft is to land while the material is on board. When the destination is changed after departure because of weather or other unforeseen circumstances, permission from the owner or operator of the alternate airport should be obtained as soon as practicable before landing.

(3) At any airport where the airport owner or operator or authorized representative thereof has designated a location for loading or unloading the material concerned, the material may not be loaded or unloaded at any other location.

(4) If the material concerned can create destructive forces or have lethal or injurious effects over an appreciable area as a result of an accident involving the aircraft or the material, the loading and unloading of the aircraft and its operation in takeoff, en route, and in landing must be conducted at a safe distance from heavily populated areas and from any place of human abode or assembly.

(5) If the aircraft is being operated by a holder of a certificate issued under 14 CFR Part 121, Part 127, or Part 135, operations must be conducted in accordance with conditions and limitations specified in the certificate holder's operations specifications or operations manual accepted by the FAA. If the aircraft is being operated under 14 CFR Part 91, operations must be conducted in accordance with an operations plan accepted and acknowledged in writing by the operator's FAA District Office.

(6) Each pilot of the aircraft must be provided written instructions stating the conditions and limitations of the operation being conducted and the name of the airport official[s] granting the advance permission required by the first sentence of subparagraph (2) of this paragraph.

(7) The aircraft and the loading arrangement to be used must be approved for safe carriage of the particular materials concerned by the FAA District Office holding the operator's certificate and charged with overall inspection of its operations, or the appropriate FAA District Office serving the place where the material is to be loaded.

(8) When Class A explosives are carried under the authority of this section, the operator of the aircraft shall obtain route approval from the FAA inspector in the operator's FAA District Office.

(9) During loading and unloading, no person may smoke, carry a lighted cigarette, cigar, or pipe, or operate any device capable of causing an open flame or spark within 50 feet of the aircraft.

(c) The following additional conditions apply to the carriage of flammable liquids and combustible liquids in tanks each having a capacity of more than 110 gallons under the authority of this section:

(1) The tanks and their associated piping and equipment and the installations thereof must have been approved for the material to be transported under a supplemental type certificate.

(2) In the case of an aircraft being operated by a certificate holder, the operator shall list the aircraft and the supplemental type certificate approval information in its operating specifications. If the aircraft is being operated by other than a certificate holder, a copy of the supplemental type certificate must be carried on board the aircraft.

(3) The crew of the aircraft must be thoroughly briefed on the operation of the particular bulk tank system being used.

(4) During loading and unloading and thereafter until any remaining fumes within the aircraft are dissipated:

(i) Only those electrically operated bulk tank shutoff valves that have been approved under a supplemental type certificate may be electrically operated.

(ii) No engine or electrical equipment, avionic equipment, or auxiliary power units may be operated, except position lights in the steady position and equipment required by approved loading or unloading procedures, as set forth in the operator's operations manual, or for operators that are not certificate holders, as set forth in a written statement.

(iii) No person may fill a container, other than an approved bulk tank, with a flammable or combustible liquid or discharge a flammable or combustible liquid from a container, other than an approved bulk tank, while that container is inside or within 50 feet of the aircraft.

(iv) When filling an approved bulk tank by hose from inside the aircraft, the doors and hatches must be fully open to insure proper ventilation.

(v) Static ground wires must be connected between the storage tank or fueler and the aircraft, and between the aircraft and a positive ground device.

[Amdt. 175-1, 41 FR 16106, Apr. 15, 1976, as amended by Amdt. 175-1A, 41 FR 40686, Sept. 20, 1976]

§ 175.630 Special requirements for poisons.

(a) No person may transport a package bearing a POISON label aboard an aircraft in the same cargo compartment with material which is marked as or known to be foodstuff, feed, or any other edible material intended for consumption by humans or animals.

(b) No person may operate an aircraft that has been used to transport any package bearing a POISON label unless, upon removal of such package, the area in the aircraft in which it was carried is visually inspected for evidence of leakage, spillage, or other contamination. All contamination discovered must be either isolated or removed from the aircraft. The operation of an aircraft contaminated with such poisons is considered to be the carriage of poisonous materials under paragraph (a) of this section.

§ 175.700 Special requirements for radioactive materials.

(a) No person may place any package of radioactive materials bearing "RADIOACTIVE YELLOW-II" or "RADIOACTIVE YELLOW-III" labels in an aircraft closer than the distances shown in the following table to a space (or dividing partition between spaces) which may be continuously occupied by people, or shipments of animals, or closer than the distances shown in the following table to any package containing undeveloped film (if so marked). If more than one of these packages is present, the distance shall be computed from the following table on the basis of the total transport index numbers shown on labels of the individual packages in the aircraft:

Total transport index	Minimum separation distances in feet to nearest undeveloped film for various times of transit					Minimum distance in feet to area of persons, or minimum distance in feet from dividing partition of cargo compartment
	Up to 2 hr	2-4 hr	4-8 hr	8-12 hr	Over 12 hr	
None	0	0	0	0	0	0
0.1 to 1.0	1	2	3	4	5	1
1.1 to 5.0	3	4	6	8	11	2
5.1 to 10.0	4	6	9	11	15	3
10.1 to 20.0	5	8	12	16	22	4
20.1 to 30.0	7	10	15	20	29	5
30.1 to 40.0	8	11	17	22	33	6
40.1 to 50.0	9	12	19	24	36	7

(b) In addition to the reporting requirements of § 175.45, the carrier must also notify the shipper at the earliest practicable moment following any incident in which there has been breakage, spillage, or suspected radioactive contamination involving radioactive materials shipments. Aircraft in which radioactive materials have been spilled may not be again placed in service or routinely occupied until the radiation dose rate at any accessible surface is less than 0.5 millirem per hour and there is no significant removable radioactive surface contamination (see § 173.397 of this subchapter). In these instances, the package or materials should be segregated as far as practicable from personnel contact. If radiological advice or assistance is needed, the U.S. Energy Research and Development Administration should also be notified. In case of obvious leakage, or if it appears likely that the inside container may have been damaged, care should be taken to avoid inhalation, ingestion, or contact with the radioactive materials. Any loose radioactive materials should be left in a segregated area pending disposal instructions from qualified persons.

(c) No person may carry aboard a passenger-carrying aircraft any package of radioactive material which contains a large quantity (large radioactive source) of radioactivity (as defined in § 173.389 (b) of this subchapter), except as specifically approved by the Director, Office of Hazardous Materials Operations, Materials Transportation Bureau, Department of Transportation.

(d) Except as provided in § 175.10, no person may carry aboard a passenger-carrying aircraft any radioactive materials except radioactive materials intended for use in, or incident to, research, or medical diagnosis or treatment.

[Amdt. 175-1, 41 FR 16106, Apr. 15, 1976, as amended by Amdt. 175-1A, 41 FR 40687, Sept. 20, 1976]

§ 175.710 Special requirements for fissile Class III radioactive materials.

(a) No person may carry aboard any aircraft any package of fissile Class III radioactive material (as defined in § 173.389(a)(3) of this subchapter), except as follows:

(1) On a cargo-only aircraft which has been assigned for the sole use of the consignor for the specific shipment of fissile radioactive material. Instructions for such sole use must be provided for in special arrangements between the consignor and carrier, with instructions to that effect issued with shipping papers; or

(2) On any aircraft on which there is no other package of radioactive materials required to bear one of the RADIOACTIVE labels described in §§ 172.437, 172.438, and 172.439 of this subchapter. Specific arrangements must be effected between the shipper and carriers, with instructions to that effect issued with the shipping papers; or

(3) In accordance with any other procedure specifically approved by the Director, Office of Hazardous Materials Operations, Materials Transportation Bureau.

PART 176—CARRIAGE BY VESSEL

Subpart A—General

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176.1 Purpose and scope.
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AUTHORITY: 46 U.S.C. 170(7), 49 CFR 1.53(f).

AUTHORITY: 46 U.S.C. 170(7) (a-c); 49 U.S.C. 1803, 1804, 1808; 49 CFR 1.53 (e), (f).

EFFECTIVE DATE NOTE: The above authority citation becomes effective Jan. 3, 1977.

SOURCE: Amdt. 176-1, 41 FR 16110, Apr. 15, 1976, unless otherwise noted.

EFFECTIVE DATE NOTE: (1) Except as provided in paragraphs (2) through (4), compliance with the provisions of this amendment is not mandatory until January 1, 1977.

(2) Compliance with the provisions of this amendment pertaining to the information required to appear on a shipping paper or the format of a shipping paper, is not mandatory until July 1, 1977. (See note to 49 CFR 172.204(a) regarding delayed compliance with that section's required use of a newly worded shipper's certification.)

(3) A package filled, marked or labeled before July 1, 1976, in accordance with regulations in effect on June 30, 1976, may be offered for transportation and transported, even though it does not comply with the package, marking and labeling provisions of this amendment, if it (i) is offered for transportation before July 1, 1977, and (ii) compiles with the package, marking and labeling regulations in effect on June 30, 1976.

(4) Compliance with the provisions of this amendment appearing in Subpart F of Part 172 (Placarding) is not mandatory until July 1, 1977.

(5) Under the authority of any of the preceding four numbered paragraphs:

(i) When a provision of this amendment is not complied with, the comparable provision (if any) of the regulations in effect on June 30, 1976, shall be complied with; however,

(ii) The hazard class and description of a material indicated on a shipping paper must be the same as the hazard class indicated on the label (if any) displayed, and the description marked, on the package containing that material.

(6) For purposes of the application of Part 174 (except § 174.25) to rail cars from July 1, 1976, to July 1, 1977, placards specified in this amendment, and placards specified under regulations in effect on June 30, 1976, may be treated as equivalent according to the following table:

Hazard class (material)	Placard adopted under docket No. HM-103/112	Equivalent placard required by pt. 174 on June 30, 1976
Explosives A	EXPLOSIVES A	EXPLOSIVES.
Explosives B	EXPLOSIVES B	DANGEROUS.
Explosives C	FLAMMABLE	None.
Flammable liquid	FLAMMABLE	DANGEROUS.
Flammable solid	FLAMMABLE SOLID	DANGEROUS.
Oxidizer	OXIDIZER	DANGEROUS.
Corrosive liquid	CORROSIVE	DANGEROUS.
Nonflammable gas	NONFLAMMABLE GAS	DANGEROUS.
Flammable gas	FLAMMABLE GAS	DANGEROUS.
Poison A	POISON GAS	POISON GAS.
Poison B	POISON	DANGEROUS.
Radioactive material	RADIOACTIVE	DANGEROUS—RADIOACTIVE MATERIAL.
Organic peroxide	ORGANIC PEROXIDE	DANGEROUS.
(Chlorine)	CHLORINE	DANGEROUS.
(Oxygen, pressurized liquid)	OXYGEN	DANGEROUS.

(7) This amendment does not terminate any outstanding exemption issued under 49 CFR, Part 107 or its predecessor authorities. Any exemption from a regulatory requirement in effect on June 30, 1976, which is modified or replaced by this amendment, continues in effect:

(i) By its own terms, to the extent that continued compliance with that regulatory requirement is required or authorized by this amendment; and

(ii) For any provision of this amendment which is equivalent to that regulatory requirement.

Subpart A—General

§ 176.1 Purpose and scope.

This part prescribes requirements in addition to those contained in Parts 171, 172, and 173 of this subchapter to be observed with respect to the transportation of hazardous materials by vessel.

§ 176.3 Unacceptable hazardous materials shipments.

(a) A carrier may not transport by vessel any shipment of a hazardous material that is not prepared for transportation in accordance with Parts 172 and 173 of this subchapter.

(b) A carrier may not transport by vessel any explosive or explosive composition described in § 176.5(c).

§ 176.5 Application to vessels.

(a) Except as provided in paragraphs (b) and (e) of this section, this subchapter applies to each domestic or foreign vessel when in the navigable waters of the United States, regardless of its character, tonnage, size, or service, and whether self-propelled or not, whether arriving or departing, underway, moored, anchored, aground, or while in dry dock.

(b) With the exception of paragraph (c) of this section, this subchapter does not apply to:

(1) A public vessel not engaged in commercial service;

(2) A vessel constructed or converted for the principal purpose of carrying flammable or combustible liquid cargo in bulk in its own tanks, when only carrying these liquid cargoes;

(3) A vessel of 15 gross tons or smaller when not engaged in carrying passengers for hire;

(4) A vessel used exclusively for pleasure;

(5) A vessel of 500 gross tons or smaller when engaged in fisheries;

(6) A tug or towing vessel except when towing another vessel having explosives, flammable liquids or flammable compressed gas on board on deck in which case the tug or towing vessel shall make such provisions to guard against and extinguish fire as the Coast Guard may prescribe;

(7) A cable vessel, dredge, elevator vessel, fireboat, icebreaker, pile driver, pilot boat, welding vessel, salvage vessel, or wrecking vessel; or

(8) A foreign vessel transiting the territorial sea of the United States without entering the internal waters of the United States, if all hazardous materials being carried on board are being carried in accordance with the requirements of the IMCO Code.

(c) 46 U.S. Code 170(3) prohibits the transportation, carriage, conveying, storing, stowing or using any of the following explosives on board any vessel to which this subchapter applies:

(1) Any fulminate or other detonating compound in bulk in dry condition.

(2) Any explosive composition that can ignite spontaneously or undergo marked decomposition when subjected for 48 consecutive hours to a temperature of 167 degrees F. (75 degrees C.).

(3) Any composition containing an ammonium salt and a chlorate or other like explosive.

(d) The bulk carriage of hazardous materials by water is governed by 46 CFR Subchapters D, I, O, and N.

(e) The transportation of military explosives on board vessels is governed by 46 CFR Part 146.

[Amdt. 176-1, 41 FR 16110, Apr. 15, 1976, as amended by Amdt. 176-1A, 41 FR 40687, Sept. 20, 1976]

§ 176.9 "Order-Notify" or "C.O.D." shipments.

(a) A carrier may not transport Class A explosives or blasting caps which are—

(1) Consigned to "Order-notify" or "C.O.D.", except on a through bill of lading to a place outside the United States; or

(2) Consigned by the shipper to himself unless he has a resident representative to receive the shipment at the port of discharge.

§ 176.11 Exceptions.

(a) Section 171.2 of this subchapter notwithstanding, a hazardous material (other than an explosive or a radioactive material) being imported into or exported from the United States or passing through the United States in the course of being shipped between places outside the United States may be offered and accepted for transportation and transported by vessel (or by a motor vehicle used in connection with the discharge or loading of a vessel and not operating on a public street or highway) if the hazardous material is packaged, marked, labeled, classed, described, certified, and placarded in accordance with the requirements of the IMCO Code and otherwise stowed and carried in accordance with this part.

(b) Canadian shipments and packages may be transported by vessel if they are transported in accordance with this subchapter. (See § 173.8 of this subchapter.)

(c) The requirements of this subchapter governing the transportation of combustible liquids do not apply to the transportation of combustible liquids in containers of 110 gallons or less on board vessels.

(d) Transport vehicles, containing hazardous materials loaded in accordance with specific requirements of this subchapter applicable to such vehicles, may be transported on board a ferry vessel or carfloat, subject to the applicable requirements specified in § 176.76, 176.100, and Subpart E of this part.

(e) Hazardous materials classed and shipped as ORM-D are not subject to the requirements of this part.

[Amdt. 176-1, 41 FR 16110, Apr. 15, 1976, as amended by Amdt. 176-1A, 41 FR 40687, Sept. 20, 1976]

§ 176.13 Responsibility for compliance.

Unless this subchapter specifically provides that another person must perform a duty, each carrier, including a connecting carrier, shall comply with all applicable regulations in this part, and shall thoroughly instruct his employees in relation thereto.

§ 176.15 Enforcement.

(a) An enforcement officer of the U.S. Coast Guard may at any time and at any place, within the jurisdiction of the United States, board any vessel for the purpose of enforcement of this subchapter and inspect any shipment of hazardous materials as defined in this subchapter.

(b) Under the authority of 46 U.S. Code 170(13) and in the manner provided therein, a collector of customs may detain a vessel which is in violation of this subchapter.

[Amdt. 176-1, 41 FR 16110, Apr. 15, 1976, as amended by Amdt. 176-1A, 41 FR 40687, Sept. 20, 1976]

§ 176.18 Assignment and certification.

(a) The National Cargo Bureau, Inc., is authorized to assist the Coast Guard in administering this subchapter with respect to the following:

(1) Inspection of vessels for suitability for loading hazardous materials;

(2) Examination of stowage of hazardous materials;

(3) Making recommendations for stowage requirements of hazardous materials cargo; and

(4) Issuance of certificates of loading setting forth that the stowage of hazardous materials is in accordance with the requirements of 46 U.S.C. 170 and this subchapter.

(b) A certificate of loading issued by the National Cargo Bureau, Inc., may be accepted by the Coast Guard as prima facie evidence that the cargo is stowed in conformity with the requirements of 46 U.S.C. 170 and this subchapter.

Subpart B—General Operating Requirements

§ 176.24 Shipping papers.

A carrier may not transport a hazardous material by vessel unless the material is properly described on the shipping paper in the manner prescribed in Part 172 of this subchapter.

§ 176.27 Certificate.

(a) A carrier may not transport a hazardous material by vessel unless he has received a certificate prepared in accordance with § 172.204 of this subchapter.

(b) In the case of an import or export shipment of hazardous materials which will not be transported by rail, highway, or air, the shipper may certify on the bill of lading or other shipping paper that the hazardous material is properly classed, described, marked, packaged, and labeled according to Part 172 of this subchapter or in accordance with the requirements of the IMCO Code. See § 171.12.

[Amdt. 176-1, 41 FR 16110, Apr. 15, 1976, as amended by Amdt. 176-1A, 41 FR 40687, Sept. 20, 1976]

§ 176.30 Dangerous cargo manifest.

(a) The master of a vessel transporting hazardous materials or his authorized representative shall prepare a dangerous cargo manifest, list, or stowage plan. This document must be kept in a designated holder, on or near the vessel's bridge. It must contain the following information:

(1) Name of vessel and official number. (If the vessel has no official number, the international radio call sign must be substituted.);

(2) Nationality of vessel;

(3) Shipping name of each hazardous material on board, as given in the Hazardous Materials Table, § 172.101 of this subchapter or the "correct technical name" as given in the International Maritime Dangerous Goods Code published by IMCO. For other than a domestic shipment, when the shipping name of a material is an "n.o.s." entry, this entry must be qualified by the technical name of the commodity in parentheses, e.g., "Corrosive material, n.o.s. (caprylyl chloride)";

(4) The number and description of packages (barrels, drums, cylinders, boxes, etc.) and gross weight for each type of packaging:

(5) Classification of the hazardous material in accordance with either:

(i) The Hazardous Materials Table, § 172.101; or

(ii) The Inter-governmental Maritime Consultative Organization's Dangerous Goods Code.

(6) Any additional description required by § 172.203 of this subchapter.

(7) Stowage location of the hazardous material on board the vessel.

(8) In the case of a vessel used for the storage of explosives or other hazardous materials, the following additional information is required:

(i) Name and address of vessel's owner;

(ii) Location of vessel's mooring;

(iii) Name of person in charge of vessel;

(iv) Name and address of the owner of the cargo; and

(v) A complete record, by time intervals of one week, of all receipts and disbursements of hazardous materials. The name and address of the consignor must be shown against all receipts and the name and address of the consignee against all deliveries.

(b) The hazardous material information on the dangerous cargo manifest must be the same as the information furnished by the shipper on the shipping order or other shipping paper, except that the IMCO "correct technical name" and the IMCO class may be indicated on the manifest as provided in paragraphs (a)(3) and (a)(5) of this section. The person who supervises the preparation of the manifest, list, or stowage plan shall ensure that the information is correctly transcribed, and shall certify to the truth and accuracy of this information to the best of his knowledge and belief by his signature and notation of the date prepared.

(c) The master, or a licensed deck officer designated by the master and attached to the vessel, or in the case of a barge, the person in charge of the barge, shall acknowledge the correctness of the dangerous cargo manifest, list, or stowage plan by his signature. The requirements of this paragraph do not apply to unmanned barges.

(d) Each carrier who transports or stores hazardous materials on a vessel shall retain for one year thereafter a copy of the dangerous cargo manifest, list, or stowage plan, and shall make that manifest or list available for inspection in accordance with § 176.36(b).

[Amdt. 176-1, 41 FR 16110, Apr. 15, 1976, as amended by Amdt. 176-1A, 41 FR 40687, Sept. 20, 1976]

§ 176.31 Exemptions.

If a hazardous material is being transported by vessel under the authority of an exemption and a copy of the exemption is required to be on board the vessel, it must be kept with the dangerous cargo manifest.

§ 176.33 Labels.

Each carrier shall maintain an adequate supply of the labels required in Subpart E of Part 172 of this subchapter to replace those that become lost or detached. Replacement must be based on information taken from the shipping order, delivery receipt, or other shipping paper covering the shipment.

§ 176.36 Preservation of records.

(a) When this part requires shipping orders, manifest, cargo lists, stowage plans, reports, or any other papers, documents or similar records to be prepared, the carrier shall preserve them or copies of them in his place of business or office in the United States for a period of one year after their preparation.

(b) Any record required to be preserved must be made available upon request to an authorized representative of the Department of Transportation.

§ 176.39 Inspection of cargo.

(a) *Manned vessels.* (1) The master of a vessel transporting hazardous materials shall cause an inspection of each hold or compartment containing hazardous materials to be made after stowage is complete, and at least once every 24 hours thereafter, weather permitting, in order to ensure that the cargo is in a safe condition and that no damage caused by shifting, spontaneous heating, leaking, sifting, wetting, or other cause has been sustained by the vessel or its cargo since loading and stowage. This requirement does not require freight containers or individual barges to be opened. A vessel's holds equipped with smoke or fire detecting systems, having an automatic monitoring capability, need not be inspected except after stowage is complete and after periods of heavy weather.

(2) The master shall cause an entry to be made in the vessel's deck log book for each inspection of the stowage of hazardous materials performed.

(b) *Unmanned and magazine vessels.* An inspection of the cargo must be made after stowage has been completed to ensure that stowage has been accomplished properly and that there are no visible signs of damage to any packages or evidence of heating, leaking, or sifting. This inspection must be made by the individual who is responsible to the carrier and who is in charge of loading and stowing the cargo on the unmanned vessels or the individual in charge in the case of a magazine vessel.

(c) The master of each ocean-going vessel carrying hazardous materials shall, immediately prior to entering a port in the United States, cause an inspection of that cargo to be made.

(d) When inspecting a cargo of hazardous materials capable of evolving flammable vapors, any artificial means of illumination must be of an explosion-proof type.

§ 176.45 Emergency situations.

(a) When an accident occurs on board a vessel involving hazardous materials, and the safety of the vessel, its passengers or crew are endangered, the master shall adopt such procedures as will, in his judgment, provide maximum safety for the vessel, its passengers, and its crew. When the accident results in damaged packages or the emergency use of unauthorized packagings, these packages may not be offered to any forwarding carrier for transportation. The master shall notify the nearest District Commander, U.S. Coast Guard, and request instructions for disposition of the packages.

(b) Hazardous materials may be jettisoned only if the master believes this action necessary to prevent or substantially reduce a hazard to human life or reduce a substantial hazard to property.

§ 176.48 Situation requiring report.

(a) When a fire or other hazardous condition exists on a vessel transporting hazardous materials, the master shall notify the nearest District Commander as soon as possible and shall comply with any instructions given by the District Commander.

(b) When an incident occurs during transportation in which hazardous materials are involved, Hazardous Materials Incident Reports may be required. See § 171.15 and § 171.16 of this subchapter.

(c) If a package, portable tank, freight container, highway or railroad vehicle containing hazardous materials is jettisoned or lost, the master shall notify the nearest District Commander and the Commandant (GMHM) as soon as possible of the location, quantity, and type of the material.

[Amdt. 176-1, 41 FR 16110, Apr. 15, 1976, as amended by Amdt. 176-1A, 41 FR 40687, Sept. 20, 1976]

§ 176.50 Acceptance of damaged or leaking packages.

A carrier may not transport by vessel any package that is so damaged as to permit the escape of its contents, that appears to have leaked, or that gives evidence of failure to properly contain the contents unless it is restored or repaired to the satisfaction of the master of the vessel. A package containing radioactive materials (other than low specific activity materials) may not be repaired or restored.

[Amdt. 176-1, 41 FR 16110, Apr. 15, 1976, as amended by Amdt. 176-1A, 41 FR 40687, Sept. 20, 1976]

§ 176.52 Rejections of shipments in violation.

(a) A carrier may not knowingly transport by vessel any hazardous material offered under a false or deceptive name, marking, invoice, shipping paper or other declaration, or without the shipper furnishing written information about the true nature of the material at the time of delivery.

(b) If a shipment in violation is found in transit, the master of the vessel shall adopt procedures which in his judgment provide maximum safety to the vessel, its passengers and its crew and which are in compliance with § 176.45. If the vessel is in port, the material may not be delivered to any party, and the master shall immediately notify the nearest District Commander and request instructions for disposition of the material.

§ 176.54 Repairs involving welding or burning.

(a) Except as provided in paragraph (b) of this section, repairs or work involving welding or burning, or the use of power-actuated tools or appliances which may produce intense heat may not be undertaken on any vessel having on board explosives or other hazardous materials as cargo.

(b) Paragraph (a) of this section does not apply if—

(1) The repairs or work are approved by the local Coast Guard Captain of the Port or his authorized representative; or

(2) Emergency repairs to the vessel's main propelling or boiler plant or auxiliaries are necessary.

Subpart C—General Handling and Stowage

§ 176.57 Supervision of handling and stowage.

(a) Hazardous materials may be handled or stowed on board a vessel only under the direction and observation of a qualified person assigned for this duty.

(b) For a vessel engaged in voyages coastwise, or on rivers, bays, sounds or lakes, including the Great Lakes when the voyage is not foreign-going, the person may be an employee of the carrier and assigned to this duty by the carrier, or a licensed officer attached to the vessel and assigned by the master of the vessel.

(c) For a domestic vessel engaged in a foreign-going or intercoastal voyage, the person must be an officer possessing an unexpired license issued by the U.S. Coast Guard and assigned to this duty by the carrier or master of the vessel.

(d) For a foreign vessel, the person must be an officer of the vessel assigned to this duty by the master of the vessel.

§ 176.58 Preparation of the vessel.

Each hold or compartment in which hazardous materials are to be transported must be swept clean of all debris before the hazardous materials are stowed therein. Bilges must be examined and all residue of previous cargo removed.

§ 176.60 "No Smoking" signs.

When smoking is prohibited during the loading, stowing, storing, transportation, or unloading of hazardous materials by this part, the carrier and the master of the vessel are jointly responsible for posting "NO SMOKING" signs in conspicuous locations.

§ 176.63 Stowage locations.

(a) The table in § 172.101 of this subchapter specifies generally the locations authorized for stowage of the various hazardous materials on board vessels. This Part prescribes additional requirements with respect to the stowage of specific hazardous materials in addition to those authorized in Section 172.101 of this subchapter. This section sets forth the basic physical requirements for the authorized locations.

(b) To qualify as "on deck" stowage, the location must be on the weather deck. If it is in a house on the weather deck, it must have a permanent structural opening to the atmosphere, such as a door, hatch companionway or manhole, and must be vented to the atmosphere. It may not have any structural opening to any living quarters, cargo, or other compartment unless the opening has means for being closed off and secured. Any deck house containing living quarters, a steering engine, a refrigerating unit, a refrigerated stowage box, or a heating unit may not be used unless that area is isolated from the cargo stowage area by a permanent, and tight metallic bulkhead. Stowage in a shelter or 'tween deck is not considered to be "on deck". A barge which is vented to the atmosphere and is stowed on deck on a barge-carrying ship is considered to be "on deck". When an entry in § 172.101 requires "on-deck" stowage and is qualified by the requirement "shade from radiant heat", the stowage must be protected from the direct rays of the sun by means of structural erections or awnings.

(c) To qualify as "under deck" stowage, the location must be in a hold or compartment below the weather deck capable of being ventilated and allotted entirely to the carriage of cargo. It must be bounded by permanent steel decks and bulkheads or the shell of the vessel. The deck openings must have means for effectively closing the hold or compartment against the weather, and in the case of superimposed holds, for effectively closing off each hold. A hold or compartment containing a crew passage formed by battens or by mesh or wire screen bulkhead may not be used for the stowage of any hazardous material unless a watchman is provided for this area.

(d) To qualify as "under deck away from heat", the location must be under deck and have built-in means for ventilation. If it is subject to heat from any artificial source, it only qualifies for the stowage of those hazardous materials for which "under deck" stowage is authorized.

[Amdt. 176-1, 41 FR 16110, Apr. 15, 1976, as amended by Amdt. 176-1A, 41 FR 40687, Sept. 20, 1976]

§ 176.65 Alternative stowage procedures.

When a hazardous material is to be loaded on board a vessel and it is shown to the satisfaction of the Coast Guard Captain of the Port for the place where the vessel is being loaded that it is impracticable to comply with a stowage location requirement specified in the table in § 172.101 or a handling or stowage requirement prescribed in this part, the Captain of the Port may authorize in writing the use of an alternate stowage location or method of handling or stowage subject to such conditions as he finds will ensure a level of safety at least equal to that afforded by the regulatory requirement concerned.

[Amdt. 176-1A, 41 FR 40687, Sept. 20, 1976]

§ 176.69 General stowage requirements for hazardous materials.

(a) Hazardous materials (except as provided in (c) of this section and ORM) must be stowed in a manner that will facilitate inspection during the voyage, its removal from a potentially dangerous situation, and the removal of packages in case of fire.

(b) Each package marked "THIS SIDE UP" must be stowed so as to remain in the position indicated during transportation.

(c) If a vessel designed for and carrying hazardous materials in freight containers or a vessel designed for and carrying hazardous materials in barges is equipped with a fixed fire extinguishing and fire detection system, the freight containers or barges need not be stowed in the manner required by paragraph (a) of this section. When freight containers or barges containing hazardous materials are stowed on deck, they need not be stowed in the manner required by paragraph (a) if fire fighting equipment capable of reaching and piercing the freight container or barge is on board the vessel.

[Amdt. 176-1, 41 FR 16110, Apr. 15, 1976, as amended by Amdt. 176-1A, 41 FR 40687, Sept. 20, 1976]

§ 176.72 Handling of break-bulk hazardous materials.

(a) A metal bale hook may not be used for handling any package of hazardous materials.

(b) The use of equipment designed to lift or move cargo by means of pressure exerted on the packages may not be used for handling any package of hazardous materials if the device can damage the package or the package is not designed to be moved in that manner.

(c) Pallets, slings, cargo nets and other related equipment used in loading packages of hazardous materials must give adequate support to the packages. The packages must be contained so that they are not able to fall during loading.

§ 176.74 On deck stowage of break-bulk hazardous materials.

(a) Packages containing hazardous materials must be secured by enclosing in boxes, cribs or cradles and proper lashing by use of wire rope, strapping or other means, including shoring and bracing, or both. Lashing of deck cargo is permitted if eye pads are used to attach the lashings. Lashings may not be secured to guard rails. Bulky articles must be shored.

(b) A packaging susceptible to weather or water damage must be protected so that it will not be exposed to the weather or to sea water.

(c) Not more than fifty percent of the total open deck area may be used for stowage of hazardous materials (except ORM material).

(d) Fireplugs, hoses, sounding pipes, and access to these must be free and clear of all cargo.

(e) Crew and passenger spaces and areas set aside for the crew's use may not be used to stow any hazardous material.

(f) A hazardous material may not be stowed within a horizontal distance of 25 feet of an operating or embarkation point of a lifeboat.

(g) Hazardous materials must be stowed to permit safe access to the crew's quarters and to all parts of the deck required in navigation and necessary working of the vessel.

(h) When runways for use of the crew are built over stowed hazardous materials, they must be constructed and fitted with rails and lifelines so as to afford complete protection to the crew when in use.

§ 176.76 Highway vehicles, railroad vehicles, freight containers, and portable tanks containing hazardous materials.

(a) Except as provided in paragraphs (b) through (f) of this section, hazardous materials (other than Class A explosives unless otherwise approved by the Commandant (G-MHM)) authorized to be transported by vessel may be carried on board a vessel in a highway vehicle, railroad vehicle, or freight container subject to the following conditions:

(1) The material must be in proper condition for transportation according to the requirements of this subchapter;

(2) All packages in the transport vehicle or container must be secured to prevent movement in any direction. However, vertical restraint is not required if the shape of the packages and the stuffing pattern precludes shifting of the load;

(3) Bulkheads made of dunnage which extend to the level of the cargo must be provided unless the packages are stowed flush with the sides or ends;

(4) Dunnage must be secured to the floor when the cargo consists of dense materials or heavy packages;

(5) Each package marked "THIS SIDE UP" must be so stowed;

(6) Any slack spaces between packages must be filled with dunnage;

(7) The weight in a container must be distributed throughout as evenly as possible and the maximum permissible weight must not be exceeded.

(8) Adjacent levels of baggaged and baled cargo must be stowed in alternate directions so that each tier binds the tier above and below it.

(9) Packages containing solids should be stowed on top of packages containing liquids.

(10) The lading must be contained entirely within the freight container or vehicle body without overhang or projection except that oversized machinery such as tractors or vehicles with batteries attached may overhang or project outside the intermodal container provided all of that portion of the lading that consists of hazardous materials is contained entirely within the freight container. No open-bed container or vehicle is permitted to carry hazardous materials unless it is equipped with a means of properly securing the lading.

(b) A highway vehicle containing hazardous materials may be carried only on board a trailership, ferry vessel or a carfloat.

(c) A railroad vehicle containing hazardous materials may be carried only on board a trainship, railroad car ferry or a carfloat.

(d) A transport vehicle or freight container equipped with heating or refrigeration equipment may be operated on board a vessel. However, the equipment may not be operated in any hold or compartment in which any flammable liquid or gas is stowed. Any heating or air conditioning equipment having a fuel tank containing a flammable liquid or gas may be stowed only "on deck". Equipment electrically powered and designed to operate within an environment containing flammable vapors may be operated below deck in a hold or compartment containing a flammable liquid or gas. (See § 176.79.)

(e) A transport vehicle, loaded with any hazardous material which is required to be stowed "on deck" by § 172.101 of this subchapter, may be stowed one deck below the weather deck when transported on a trainship or trailership which is unable to provide "on deck" stowage because of the vessel's design. Otherwise, the transport vehicle or container must be transported "on deck".

(f) Each transport vehicle, freight container, and portable tank being transported by vessel must be placarded in accordance with the requirements of Subpart F of Part 172 of this subchapter.

(g) A hazardous material may be carried on board a vessel in a portable tank subject to the following conditions:

(1) The material must be in proper condition for transportation according to the requirements of this subchapter.

(2) The portable tank may not exceed 55,000 pounds gross weight.

(3) Portable tanks containing Flammable liquids or gases, Combustible liquids with flashpoints below 141° F. that are insoluble in water, or organic peroxides, spontaneously combustible materials, or water reactive materials must be stowed on deck irrespective of the stowage authorized in § 172.101. Portable tanks containing hazardous materials not restricted to on deck stowage by the previous sentence must be stowed in accordance with the requirements specified in § 172.101 of this subchapter.

(4) ORM and corrosive materials must be stowed as authorized in the Hazardous Materials Table in § 172.101 of this subchapter.

(5) Aluminum, magnesium, and their alloys are specifically prohibited as materials of construction of portable tanks.

[Amdt. 176-1, 41 FR 16110, Apr. 15, 1976, as amended by Amdt. 176-1A, 41 FR 40687, Sept. 20, 1976]

§ 176.77 Stowage of barges containing hazardous materials on board barge-carrying vessels.

(a) A barge which contains hazardous materials may be transported on board a barge-carrying vessel if it is stowed in accordance with the requirements of this section.

(b) A barge which contains hazardous materials for which only "on deck" stowage is authorized must be stowed above the weather deck and be vented to the atmosphere.

(c) A barge which contains hazardous materials for which both "on deck" and "below deck" storage is authorized may be stowed above or below the weather deck.

§ 176.78 Use of power-operated industrial trucks on board vessels.

(a) A power-operated truck (including a power-operated tractor, forklift, or other specialized truck used for cargo handling) may not be used on board a vessel in a space containing a hazardous material unless the truck complies with the requirements of this section.

(b) Each truck must have a specific designation of Underwriter's Laboratories or Factory Mutual Laboratories. Any repair or alteration to a truck must be equivalent to that required on the original designation.

(c) *Description of designations.* The recognized testing laboratory type designations are as follows:

(1) An "E" designated unit is an electrically-powered unit that has minimum acceptable safeguards against inherent fire hazards.

(2) An "EE" designated unit is an electrically-powered unit that has, in addition to all the requirements for the "E" unit, the electric motor and all other electrical equipment completely enclosed.

(3) An "EX" designated unit is an electrically-powered unit that differs from the "E" and "EE" unit in that the electrical fittings and equipment are so designed, constructed, and assembled that the unit may be used in certain atmospheres containing flammable vapors or dusts.

(4) A "G" designated unit is a gasoline-powered unit having minimum acceptable safeguards against inherent fire hazards.

(5) A "GS" designated unit is a gasoline-powered unit that is provided with additional safeguards to the exhaust, fuel, and electrical systems.

(6) An "LP" designated unit is similar to a "G" unit except that it is powered by liquefied petroleum gas instead of gasoline.

(7) An "LPS" designated unit is a unit similar to a "GS" unit except that liquefied petroleum gas is used for fuel instead of gasoline.

(8) A "D" designated unit is a unit similar to a "G" unit except that it is powered by a diesel engine instead of a gasoline engine.

(9) A "DS" designated unit is a unit powered by a diesel engine provided with additional safeguards to the exhaust, fuel, and electrical systems.

(d) *Explosives.* A truck may not be used in a hold or compartment containing explosives unless its use is approved by the Commandant (GMHM). In a space in which packaged small arms ammunition without explosive bullets is stowed, a power operated truck (except "E," "G," or "LP") may be used if approved by the local Captain of the Port.

(e) *Other hazardous materials.* (1) Only an "EX", "EE", "GS", "LPS", or "DS" truck may be used in a hold or compartment containing flammble liquids, flammable compressed gases, flammable solids, oxidizers, organic peroxides, articles of a fibrous nature, or bulk sulfur.

(2) Only a designated truck may be used to handle any other hazardous material not covered in paragraph (d) or (e) (1) of this section.

(f) *Minimum safety features.* In addition to the construction and design safety features required, each truck must have at least the following minimum safety features:

(1) The truck must be equipped with a warning horn, whistle, gong, or other device that may be heard clearly above normal shipboard noises.

(2) When the truck operation may expose the operator to danger from a falling object, the truck must be equipped with a driver's overhead guard. When the overall height of the truck with forks in the lowered position is limited by head room the overhead guard may be omitted. This overhead guard is only intended to offer protection from impact of small packages, boxes, bagged material, or similar hazards.

(3) A fork lift truck which handles small objects or unstable loads must be equipped with a load backrest extension having height, width, and strength sufficient to prevent any load, or part of it, from falling toward the mast is in a position of maximum backward tilt. It must be constructed in a manner that does not interfere with good visibility.

(4) The forks on a fork lift truck must be secured to the carriage so as to prevent any unintentional lifting of the toe which could create a hazard. The forks may not display permanent deformation when subjected to a test load of three times the rated capacity.

(5) Each fork extension or other attachment must be secured to prevent unintentional lifting or displacement on primary forks.

(6) Tires extending beyond the confines of the truck shall be provided with a guard to prevent the tires from throwing particles at the operator.

(7) Unless the steering machanism is a type that prevents road reactions from causing the steering handwheel to spin, a mushroom type steering knob must be used to engage the palm of the operator's hand, or the steering mechanism must be arranged in some other manner to prevent injury. The knob must be mounted within the perimeter of the wheel.

(8) All steering controls must be confined within the clearance of the truck or guarded so that movement of the controls will not result in injury to the operator when passing stanchions, obstructions or other.

(g) *Special operating conditions.* (1) A truck may not be used on board a vessel unless prior notification of its use is given to the master or senior deck officer on board.

(2) Before a truck is operated on board a vessel, it must be in a safe operating condition as determined by the master or senior deck officer on board.

(3) Any truck that emits sparks or flames from the exhaust system must immediately be removed from service and may not be returned to service until the cause of these sparks or flames has been eliminated.

(4) A truck may not be operated on board a vessel when the temperature of any part of the truck is found to be in excess of a safe operating temperature.

(5) All truck motors must be shut off immediately when an emergency condition arises on board a vessel.

(6) All truck motors must be shut off immediately when a breakage or leakage of packages containing flammable liquids or gases, flammable solids, oxidizers, or organic peroxides occurs or is discovered.

(7) The rated capacity of the truck must be posted on the truck at all times in a conspicuous place. This capacity may not be exceeded.

(8) At least one Coast Guard approved marine type size 1 Type B, or UL approved 5BC portable fire extinguisher, or its approved equivalent, must be affixed to the truck in a readily accessible position or must be kept in close proximity, available for immediate use.

(9) The vessel's fire fighting equipment, both fixed (where installed) and portable, must be kept ready for immediate use in the vicinity of the space being worked.

(h) *Refueling.* (1) A truck using gasoline as fuel may not be refueled in the hold or on the weather deck of a vessel unless a portable non-spilling fuel handling system of not over five gallons capacity is used. Gasoline may not be transferred to a portable non-spilling fuel handling device on board the vessel.

(2) A truck using liquefied petroleum gas as fuel may not be refueled in the hold or on the weather deck of a vessel unless it is fitted with a removable tank and the hand-operated shutoff valve of the depleted tank is closed. In addition, the motor must be run until it stalls from lack of fuel and then the hand-operated shut off valve closed before the quick disconnect fitting to the fuel tank is disconnected.

(3) A truck using diesel oil as fuel may not be refueled on the weather deck or in the hold of a vessel unless a portable container of not over a five gallon capacity is used. A truck may be refueled or a portable container may be refilled from a larger container of diesel fuel on the weather deck of a vessel if a suitable pump is used for the transfer operation and a drip pan of adequate size is used to prevent any dripping of fuel on the deck.

(4) Refueling must be performed under the direct supervision of an experienced and responsible person specifically designated for this duty by the person in charge of the loading or unloading of the vessel.

(5) Refueling may not be undertaken with less than two persons specifically assigned and present for the complete operation, at least one of whom must be experienced in using the portable fire extinguishers required in the fuel area.

(6) At least one Coast Guard approved marine type size 1 Type B or UL approved 5BC portable fire extinguisher or its approved equivalent, must be provided in the fueling area. This is in addition to the extinguisher required by paragraph (g) (8) of this section.

(7) The location for refueling trucks must be designated by the master or sen-

ior deck officer on board the vessel. "NO SMOKING" signs must be conspicuously posted in the area.

(8) The location designated for refueling must be adequately ventilated to insure against accumulation of any hazardous concentration of vapors. When a truck is being refueled, the ventilation requirements of § 176.79 apply.

(9) Before any truck in a hold is refueled or before any fuel handling device or unmounted liquefied petroleum gas cylinder is placed in a hold, the motors of all trucks in the same hold must be stopped.

(10) All fuel handling devices and unmounted liquefied petroleum gas containers must be removed from a hold before any truck motor is started and the trucks are placed in operation in that hold.

(i) *Replacing batteries.* Batteries for electrically powered trucks and for the ignition systems of internal combustion powered trucks may be changed in the hold of a vessel subject to the following conditions:

(1) Only suitable handling equipment may be employed.

(2) Adequate precautions must be taken to avoid damage to the battery, short circuiting of the battery, and spillage of the electrolyte.

(j) *Charging of batteries.* Batteries of industrial trucks may be recharged in a hold of a vessel subject to the following conditions:

(1) The batteries must be housed in a suitable, ventilated, portable metal container with a suitable outlet at the top for connection of a portable air hose, or must be placed directly beneath a suitable outlet at the top for connection of a portable air hose. The air hose must be permanently connected to an exhaust duct leading to the open deck and terminate in a gooseneck or other suitable weather head. If natural ventilation is not practicable or adequate, mechanical means of exhaust must be employed in conjunction with the duct. The air outlet on the battery container must be equipped with an interlock switch so arranged that the charging of the battery cannot take place unless the air hose is properly connected to the box.

(2) If mechanical ventilation is used, an additional interlock must be provided between the fan and the charging circuit so that the fan must be in operation in order to complete the charging circuit for operation. It is preferable that this interlock switch be of a centrifugal type driven by the fan shaft.

(3) The hold may not contain any hazardous materials.

(4) The charging facilities may be part of the truck equipment or may be separate from the truck and located inside or outside the cargo hold. The power supply or charging circuit (whichever method is used) must be connected to the truck by a portable plug connection of the break-away type. This portable plug must be so engaged with the truck battery charging outlet that any movement of the truck away from the charging station will break the connection between the plug and receptacle without exposing any live parts to contact with a conducting surface or object and without the plug falling to the deck where it may become subject to damage.

(5) All unmounted batteries must be suitably protected or removed from an area in the hold of the vessel before any truck is operated in that area.

(k) *Stowage of power-operated industrial trucks on board a vessel.* (1) Trucks may be stowed in any location on board a vessel subject to the following conditions:

(i) Each gasoline-powered truck must have all the fuel expended from the fuel system.

(ii) Each liquefied petroleum gas-operated truck must have the fuel tank removed and all the fuel expended from the fuel system.

(2) Any truck not meeting the conditions set forth in paragraph (k)(1) of this section must be stowed on the open deck except for intervals such as lunch hours, between work shifts, and interdock and intraport movements. If a truck is stowed in a fixed metal enclosure located on or above the weather deck, this enclosure must have access from the weather deck only and must have adequate ventilation arranged to remove vapors from both the upper and lower portions of the space.

(l) *Packaging and stowage of fuel on board a vessel.* (1) *Packaging.* Flammable liquids and gases to be used as fuels for trucks must be packaged in DOT specification containers, A.S.M.E. containers, or portable safety containers approved by a recognized testing laboratory and authorized for the contents.

(2) *Marking and labeling.* The appropriate DOT label must be affixed to each container of flammable liquid or flammable gas.

(3) *Stowage.* Each container must be stowed on or above the weather deck as designated by the master. However, a DOT specification container, A.S.M.E. container, or portable safety container having a capacity of five gallons or less and approved by a recognized testing laboratory may be stowed below deck in a paint locker and diesel fuel may be stowed in any location designated by the master.

[Amdt. 176-1, 41 FR 16110, Apr. 15, 1976, as amended by Amdt. 176-1A, 41 FR 40687, Sept. 20, 1976]

§ 176.79 Spaces exposed to carbon monoxide or other hazardous vapors.

When hazardous materials are transported by vessel in an enclosed space which is exposed to carbon monoxide or other hazardous vapors from exhausts of power-operated industrial trucks or other mechanized equipment, the space must be provided with adequate ventilation to prevent the accumulation of dangerous vapors. The senior deck officer shall insure that a test of the carbon monoxide content of the atmosphere is made as frequently as conditions require to detect the presence of any dangerous concentration of vapors in areas where persons may be working. The test must be made by a person acquainted with the test equipment and procedure. The carbon monoxide concentration in any hold or intermediate deck where any person is working may not exceed 50 parts per million (0.005 percent) as a time weighted average. Persons may not be permitted to remain in any hold or intermediate deck where the concentration exceeds 75 parts per million (0.0075 percent). Portable blowers of adequate size and location may be used to remove any vapors not removed by installed ventilation systems.

Subpart D—General Segregation Requirements

§ 176.80 Application.

(a) This subpart sets forth segregation requirements in addition to any segregation requirements set forth elsewhere in this subchapter.

(b) This subpart does not apply to:

(1) Materials classed as ORM-D, and

(2) Hazardous materials in limited quantities when loaded in transport vehicles and freight containers.

§ 176.83 Segregation requirements for cargo vessels and passenger vessels.

(a) The following table (Table I) specifies the categories of explosives which may not be loaded or stowed together within the same hold or compartment. The letter "X" at an intersection of a horizontal and vertical column indicates that these categories may not be stowed together in the same hold or compartment.

The symbol X at an intersection of horizontal and vertical columns shows that these articles must not be loaded or stowed together.

	Low explosives or black powder	High explosives or propellant explosives, Class A	Initiating or priming explosives, wet: diazodinitrophenol, fulminate of mercury, guanyl nitrosamino guanylidene hydrazine, lead azide, lead styphnate, nitro mannite, nitrosoguanidine, pentaerythrite tetranitrate, tetrazene, lead mononitroresorcinate	Blasting caps, with or without safety fuse (including electric blasting caps) detonating primers	Ammunition for cannon with explosive projectiles, gas projectiles, smoke projectiles, incendiary projectiles, illuminating projectiles or shells, ammunition for small arms with incendiary projectiles; ammunition for small arms with explosive projectiles; rocket ammunition with explosive projectiles; gas projectiles, smoke projectiles, incendiary projectiles, illuminating projectiles[1]; boosters (explosive); bursters (explosive); and supplementary charges (explosive) without detonators.[2]	Explosive projectiles; bombs; torpedoes; mines; rifle or hand grenades (explosive); jet thrust units (jato), Class A; igniters, jet thrust, Class A; rocket motors, Class A; igniters, rocket motor, Class A[1]	Detonating fuzes, Class A explosives, with or without radioactive components	Ammunition for cannon with empty, inert-loaded or solid projectiles, or without projectiles; rocket ammunition with empty, inert-loaded or solid projectiles	Propellant explosives, class B, jet thrust units (jato), class B; igniters, jet thrust, class B; rocket motors, class B; rocket engines (liquid), class B; igniters, rocket motor, class B; starter cartridges, jet engine, class B	Fireworks, special, or railway torpedoes	Small arms ammunition	Primers for cannon or small arms, empty cartridge bags—black powder igniters, empty cartridge cases, primed, empty grenades, primed, combination primers or percussion caps, toy caps, explosive cable cutters, explosive rivets	Percussion fuzes, tracer fuzes or tracers	Time, combination, or detonating fuzes Class C explosives	Cordeau detonant fuse, safety squibs, fuse lighters, fuse igniters, delay electric igniters, electric squibs, instantaneous fuse or igniter cord.	Fireworks, common, highway fusee or railway fusees
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Class A Explosives																
1 Low explosives or black powder			X							X						X
2 High explosives or propellant explosives, Class A			X	X			X			X						X
3 Initiating or priming explosives, wet; diazodinitrophenol, fulminate of mercury, guanyl nitrosamino guanylidene hydrazine, lead azide, lead styphnate, nitro mannite, nitrosoguanidine, pentaerythrite tetranitrate, tetrazene, lead mononitroresorcinate	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X
4 Blasting caps, with or without safety fuse (including electric blasting caps), detonating primers		X	X		X	X				X						X
5 Ammunition for cannon with explosive projectiles, gas projectiles, smoke projectiles, incendiary projectiles, illuminating projectiles or shells, ammunition for small arms with incendiary projectiles; ammunition for small arms with explosive projectiles; rocket ammunition with explosive projectiles, gas projectiles, smoke projectiles, incendiary projectiles, illuminating projectiles[1]; boosters (explosive); bursters (explosive); and supplementary charges (explosive) without detonators[2]			X	X			X			X						X
6 Explosive projectiles; bombs; torpedoes; mines; rifle or hand grenades (explosive); jet thrust units (jato), Class A; igniters jet thrust, Class A; rocket motors Class A; igniters rocket motor Class A[1]			X	X			X			X						X
7 Detonating fuzes, class A explosives, with or without radioactive components		X	X		X	X				X						X

See footnotes at end of table.

The symbol X at an intersection of horizontal and vertical columns shows that these articles must not be loaded or stowed together.	Low explosives or black powder 1	High explosives or propellant explosives, Class A 2	Initiating or priming explosives, wet; diazodinitrophenol, fulminate of mercury, guanyl nitrosamino guanylidene hydrazine, lead azide, lead styphnate, nitro mannite, nitrosoguanidine, pentaerythrite tetranitrate, tetrazene, lead mononitroresorcinate 3	Blasting caps, with or without safety fuse (including electric blasting caps) detonating primers 4	Ammunition for cannon with explosive projectiles, gas projectiles, smoke projectiles, incendiary projectiles, illuminating projectiles or shells, ammunition for small arms with incendiary projectiles; ammunition for small arms with explosive projectiles; rocket ammunition with explosive projectiles, gas projectiles,[1] smoke projectiles, incendiary projectiles, illuminating projectiles; boosters (explosive); bursters (explosive); and supplementary charges (explosive) without detonators [2] 5	Explosive projectiles; bombs; torpedoes; mines; rifle or hand grenades (explosive); jet thrust units (jato), Class A; igniters, jet thrust Class A; rocket motors, Class A; igniters, rocket motor, Class A 6	Detonating fuzes, Class A explosives, with or without radioactive components 7	Ammunition for cannon with empty, inert-loaded or solid projectiles, or without projectiles; rocket ammunition with empty projectiles, inert-loaded or solid projectiles 8
Class B Explosives								
8 Ammunition for cannon with empty, inert-loaded or solid projectiles, or without projectiles; rocket ammunition with empty, inert-loaded or solid projectiles			X					
9 Propellant explosives, class B, jet thrust units (jato), class B; igniters, jet thrust, class B; rocket motors, class B; rocket engines (liquid), class B; igniters, rocket motor, class B; starter cartridges jet engine, class B			X					
10 Fireworks, special	X	X	X	X	X	X	X	
Class C Explosives								
11 Small arms ammunition or cartridges, practice ammunition*			X					
12 Primers for cannon or small arms, empty cartridge bags, black powder igniters, empty cartridge cases, primed, combination primers or percussion caps, toy caps, explosive cablecutters, explosive rivets			X					
13 Percussion fuzes, tracer fuzes or tracers			X					
14 Time, combination or detonating fuzes, class C explosives			X					
15 Cordeau detonant fuse, safety squibs, fuse lighters, fuse igniters, delay electric igniters, electric squibs, instantaneous fuse or igniter cord			X					
16 Fireworks, common, highway fusees or railway fusees	X	X	X	X	X	X	X	

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[1] Explosives, class A, and explosives, class B, must not be loaded or stowed with chemical ammunition containing incendiary charges or white phosphorus either with or without bursting charges. Chemical ammunition of the same classification containing incendiary of white phosphorus may be loaded and stowed together.

[2] Bursters (explosive), boosters (explosive), or supplementary charges (explosive) without detonators when shipped by, to or for the Departments of the Army, Navy and Air Force of the United States Government may be stowed with any of the articles named, except those in columns 3, 4, 10, 16, 17, 18, 19, 20, 21, 22, 23, and 24.

(b) The following table (Table II) specifies the minimum separation requirements that apply when transporting different classes of hazardous materials on board a vessel, other than a ferry vessel. The symbols used in the table below mean the following:

(1) "1"—Away from.

(2) "2"—Separated from.

(3) "3"—Separated by a complete cargo compartment or hold from.

(4) "4"—Separated longitudinally by an intervening complete cargo compartment or hold from.

(5) "0"—No general segregation specified; individual entries in the Hazardous Material Table in § 172.101 of this subchapter should be consulted.

(6) "*"—Consult Table I of this section for segregation requirements between different explosives.

TABLE II

		1	2(a)	2(b)	3	4(a)	4(b)	4(c)	5(a)	5(b)	6	7	8	9
Explosives	1	(*)	4	2	4	4	4	4	4	4	2	2	4	0
Flammable compressed gases	2(a)	4	----	0	2	1	2	1	2	4	0	2	1	0
Nonflammable compressed gases	2(b)	2	0	----	2	0	1	0	0	2	0	1	0	0
Flammable or Combustible liquids	3	4	2	2	---	2	2	2	2	3	0	2	1	0
Flammable solids	4(a)	4	1	0	2	----	1	1	1	2	1	2	1	0
Flammable solids labeled spontaneously combustible	4(b)	4	2	1	2	1	----	1	2	2	1	2	1	0
Flammable solids labeled dangerous when wet	4(c)	4	1	0	2	1	1	----	2	2	1	2	1	0
Oxidizers	5(a)	4	2	0	2	1	2	2	----	2	1	1	2	0
Organic peroxides	5(b)	4	4	2	3	2	2	2	2	----	1	2	2	0
Class A or Class B Poisons or Irritating materials	6	2	0	0	0	1	1	1	1	1	---	0	0	0
Radioactive materials	7	2	2	1	2	2	2	2	1	2	0	---	2	0
Corrosive materials	8	4	1	0	1	1	1	1	2	2	0	2	---	0
Other regulated (ORM) materials	9	0	0	0	0	0	0	0	0	0	0	0	0	---

(c) *Definition of terms.*

(1) *Legend.*

(i) Reference package * * *

■

(ii) Incompatible package * * *

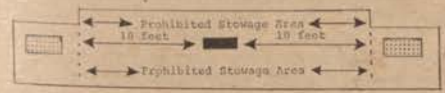
▒

(iii) Deck resistant to liquid and fire * * *

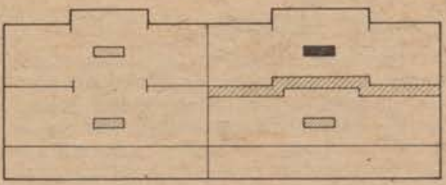
▨

NOTE: Solid vertical lines represent transverse watertight bulkheads between holds.

(2) *Away from.* "Away from" means effectively segregated so that materials may not interact dangerously in the event of an accident. These materials may be stowed in the same cargo compartment, hold, deck area or barge provided a minimum horizontal separation of 10 feet, projected vertically, is provided.



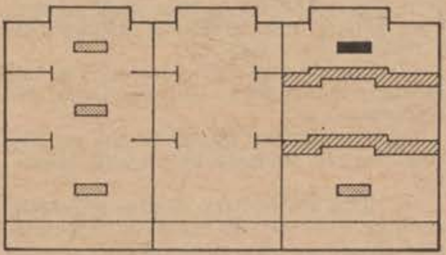
(3) *Separate from.* (i) "Separate from" means in separate holds when stowed "under deck". If the intervening deck is resistant to fire and liquid, a vertical separation, i.e., in different cargo compartments, is considered equivalent to this requirement. For "on deck" stowage, "away from" segregation is authorized.



* When the stowage location of the incompatible package is in this relation to the reference package, at least one of the intervening decks in the vertical plane must be resistant to fire and liquid.

(ii) On barge-carrying vessels, separate barges are required if the barges are constructed of steel. Otherwise separate holds are required.

(4) *Separate by a complete cargo compartment or hold from.* (i) "Separate by a complete cargo compartment or hold from" means either a vertical or horizontal separation. If the decks are not resistant to fire and liquid, a longitudinal separation by an intervening complete cargo compartment is required. For "on deck" stowage this segregation means a separation by a corresponding horizontal distance.

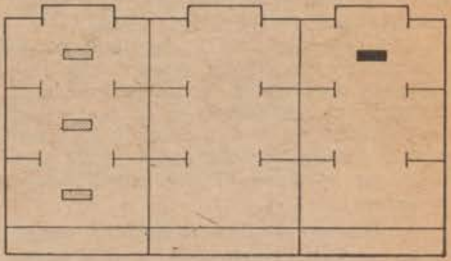


(ii) For barges aboard barge-carrying vessels, the following requirements apply:

(A) For barges loaded on ships having vertical holds, separate barge holds are required.

(B) For barges loaded on ships having horizontal barge levels, separate barge levels are required.

(5) *Separate longitudinally by an intervening complete cargo compartment or hold or engine room from.* (i) "Separate longitudinally by an intervening complete cargo compartment or hold or engine room from" means a horizontal separation by a complete intervening hold (two intervening bulkheads) or engine room. Vertical separation alone does not meet this requirement. For "on deck" stowage, this segregation means a separation by the vessel's bridge or superstructure:



(ii) For barges aboard barge-carrying vessels the following requirements apply:

(A) For barges loaded on ships having vertical holds, separation by an intervening barge hold or engine room is required.

(B) For barges loaded on ships having horizontal barge levels, separate barge levels and a longitudinal separation by at least two intervening barges are required.

(d) In applying the minimum separation requirements specified in Table II to freight containers containing hazardous materials, the following additional requirements apply:

(1) *Class segregation.* Materials for which any segregation is specified in Table II may not be stowed in the same freight container.

(2) *Vertical stowage requirements.* Freight containers either closed or open may not be stowed in the same vertical line when segregation is required unless separated by a deck resistant to fire and liquid. When a solid substance is required to be stowed "Away from" another substance, it may be stowed above the other provided a minimum distance of eight feet intervenes. When "Separate by a complete cargo compartment or hold from" is required, freight containers separated by a deck resistant to fire and liquid may not be stowed in the same vertical line unless two such decks intervene.

(3) *Horizontal stowage requirements.* (i) "Away from"—

(A) For closed freight containers stowed on or under deck there are no restrictions in regard to freight container location in relation to other freight containers.

(B) For open containers stowed on or under deck, a minimum separation of 20 feet must be provided in the fore and aft direction unless separated by a bulkhead resistant to fire and water. A minimum athwartships separation of 8 feet must be provided.

(ii) "Separated from"—(A) For closed freight containers on or under deck a fore and aft separation of at least 20 feet must be provided unless separated by a bulkhead resistant to fire and water. A minimum athwartships separation of 16 feet must be provided.

(B) For open freight containers stowed on deck a minimum separation of 20 feet must be provided in the fore and aft direction and a minimum separation of 16 feet must be provided in the athwartships direction.

(C) Open freight containers stowed under deck must be separated by a bulkhead resistant to fire and water.

(iii) "Separate by a complete cargo compartment or hold from"—(A) For closed or open freight containers on deck a minimum separation of 20 feet must be provided in the fore and aft direction and a minimum separation of 24 feet must be provided in the athwartships direction.

(B) Closed freight containers under deck must be segregated by one bulkhead resistant to fire and water.

(C) Open freight containers under deck must be segregated by two bulkheads resistant to fire and water.

(iv) "Separated longitudinally by an intervening complete cargo compartment or hold from"—(A) Closed or open freight containers on deck must be separated by a distance of 80 feet.

(B) Closed freight containers under deck must be separated by at least two bulkheads resistant to fire and water or one bulkhead resistant to fire and water and a total distance of at least 80 feet provided the containers are not stowed less than 20 feet from the intervening bulkhead.

(C) Open freight containers under deck must be separated by at least two bulkheads resistant to fire and water.

(e) In applying the minimum separation requirements specified in Table II to portable tanks and railroad and highway vehicles containing hazardous materials, paragraph (d) of this section pertaining to freight containers applies.

(f) A ferry vessel (when operating either as a passenger or cargo vessel) which cannot provide the type of separation required in this section may carry incompatible hazardous materials in separate highway or railroad vehicles if they are stowed to give the maximum possible separation.

[Amdt. 176-1, 41 FR 16110, Apr. 15, 1976, as amended by Amdt. 176-1A, 41 FR 40687, Sept. 20, 1976]

Subpart E—Special Requirements for Transport Vehicles Loaded With Hazardous Materials and Transported on Board Ferry Vessels

§ 176.88 Application.

The requirements in this subpart are applicable to transport vehicles containing hazardous materials being transported on board ferry vessels and are in addition to any prescribed elsewhere in this subchapter. Vessels in a service similar to a ferry service, but not over a designated ferry route, may be treated as a ferry vessel for the purpose of this subpart if approved in writing by the District Commander.

[Amdt. 176-1, 41 FR 16110, Apr. 15, 1976, as amended by Amdt. 176-1A, 41 FR 40690, Sept. 20, 1976]

§ 176.89 Control of transport vehicles.

(a) A transport vehicle containing hazardous materials may be transported on board a ferry vessel, subject to the following conditions:

(1) The operator or person in charge of the vehicle shall deliver to the vessel's representative a copy of the shipping papers and certificate required by § 176.24 and § 176.27;

(2) The vehicle shall be placed at the location indicated by the vessel's representative;

(3) The parking brakes of the vehicle shall be set securely to prevent movement;

(4) The motor of a highway vehicle shall be shut off and not restarted until the vessel has completed its voyage and docked;

(5) All vehicle lights shall be cut off and not relighted until the vessel has completed its voyage and docked;

(6) The operator of a highway vehicle shall remain with the vehicle;

(7) No repairs or adjustments must be made to the vehicle while it is on the vessel;

(8) No hazardous materials are to be released from the vehicle; and

(9) Any instructions given by the vessel's representative during the voyage, and during "roll on" and "roll off" operations must be observed.

(b) Smoking by any person in or around a vehicle is prohibited.

§ 176.90 Private automobiles.

A private automobile which is carrying any explosive (except permitted fireworks or small arms ammunition) may not be transported on a passenger-carrying ferry vessel unless the explosive is in compliance with packaging, labeling, marking, and certification requirements of this subchapter. Permitted fireworks and small arms ammunition may be carried without the required packaging, labeling, marking, or certification if they are in tight containers.

§ 176.91 Motorboats.

A motorboat may be transported on board a ferry vessel with gasoline in the tank and two other containers not exceeding six gallons capacity each if they are in the motorboat, closed, and in good condition.

§ 176.92 Cylinders laden in vehicles.

Any cylinder of compressed gas which is required to have a valve protection cap fitted in place may be transported on board a ferry vessel without having the valve protection cap in place when it is laden in a transport vehicle and is not removed from the vehicle while on the vessel.

§ 176.93 Vehicles having refrigerating or heating equipment.

(a) A transport vehicle fitted with refrigerating or heating equipment using a flammable liquid or gas, or diesel oil as fuel, may be transported on a ferry vessel. However, the refrigerating or heating equipment may not be operated while the vehicle is on the vessel, unless the equipment complies with the following requirements:

(1) The installation is rigidly mounted and free of any movement other than normal vibration in operation;

(2) An easily accessible shutoff control is fitted to the fuel and electrical supply of the refrigerating or heating equipment; and

(3) The fuel storage tank, the fuel lines, the carburetor and any other fuel devices are tight and show no signs of leakage.

(b) If the vehicle operator desires to operate the refrigerating or heating equipment while on the vessel and the equipment is not fitted with automatic starting and stopping devices, it must be started before the vehicle is taken on board. It may continue in operation while the vehicle is on the vessel, but if the motor stops it may not be restarted.

(c) In the case of a ferry vessel on a voyage exceeding 30 minutes' duration, stowage must be provided for transport vehicles having refrigerating or heating equipment operated by internal combustion engines which will permit ready diffusion of exhaust gases to the open air. Passenger vehicles may not be stowed in a position adjacent to vehicles operating internal combustion motors which expose the occupants of the passenger vehicles to excessive concentrations of exhaust fumes from such motors.

(d) A transport vehicle containing solid carbon dioxide as a refrigerant may be transported on a ferry vessel only if it is stowed in a well ventilated location.

Subpart F—Special Requirements for Barges

§ 176.95 Application.

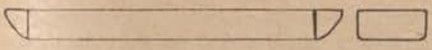
The requirements in this subpart are applicable to the transportation of hazardous materials on board barges and are in addition to any prescribed elsewhere in this subchapter.

§ 176.96 Barges classified.

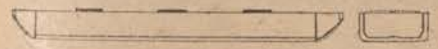
(a) For the purpose of this subpart, barges are classified as follows:

CLASS "A" BARGES

AA Hull—Constructed of steel or wood, completely decked over and transporting cargo "on deck" only.

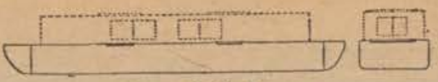


AB Hull—Constructed of steel or wood, completely decked over, fitted with cargo hatches, ceiled holds, and capable of transporting cargo "under deck" or "on deck".



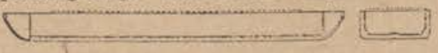
AC Hull—Constructed of steel or wood, completely decked over with superstructure house covering the deck and fitted with cargo hatches or cargo doors, and capable of transporting cargo "on deck", "under deck" in ceiled holds, or "on deck within the house".

AD Hull—Constructed of steel or wood, completely decked over, fitted with cargo hatches, with or without superstructure house covering the deck, and capable of transporting cargo "on deck" or "on deck within the house", or "under deck", having holds that are not ceiled.

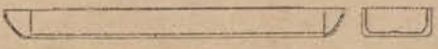


CLASS "B" BARGES

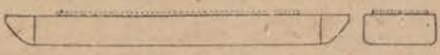
BA Hull—Constructed of steel or wood with partial decks at the ends or sides, fitted with natches with or without coamings, having ceiled holds and transporting cargo "under deck" only.



BB Hull—Constructed of steel or wood with partial decks at the ends or sides with open ceiled hold or holds.

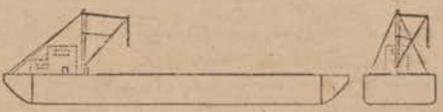


BC Hull—Constructed of steel or wood with partial decks at the ends or sides, with or without hatches, and having hold or holds without ceiling.

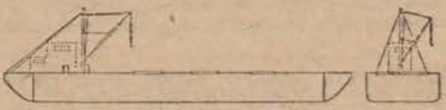


CLASS "C" BARGES

CA Hull—Constructed of steel or wood, completely decked over and transporting cargo "on deck" only, fitted with cargo mast and boom, and machinery for cargo handling, with or without house or houses on deck.

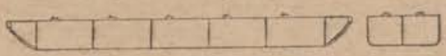


CB Hull—Constructed of steel or wood, completely decked over, having cargo hatches, and transporting cargo "on deck" or "under deck", fitted with cargo mast and boom and machinery for cargo handling, with or without house or houses on deck.

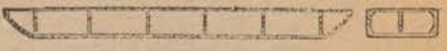


CLASS "D" BARGES

DA Hull—Constructed of steel having division bulkheads forming tight compartments (tanks) integral with the hull of the barge, to be utilized for the transportation of bulk liquid hazardous materials other than flammable or combustible liquids.

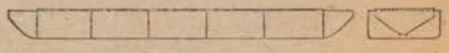


DB Hull—Constructed of wood having division bulkheads and ceiling, forming tight compartments integral with the hull of the barge, to be utilized for the transportation of bulk hazardous materials other than liquids.

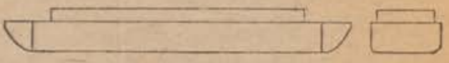


CLASS "E" BARGES

EA Hull—Constructed of steel or wood, having cargo carrying compartments of hopper type and fitted with bottom dump or side dump (known as dump scows, mud scows, garbage scows, etc.) .



EB Barge—Constructed of wood completely decked and having box-like structure on deck, not roofed over.



(b) The term "ceiled" applied to a barge constructed of wood means the hold space is fitted with a tight plank floor and that tight planking or wooden cargo battens are carried up the sides of the hold to provide a smooth floor and reasonably smooth sides without any unnecessary projections. Floors or siding fitted "tight" must have removable sections for cleaning and access for inspection of hull. When cargo battens are fitted at the sides, the floor must be carried out to the skin of the barge and fitted reasonably tight around the frames.

(c) The term "ceiled" applied to a barge constructed of steel means the construction must provide a reasonable flush floor or tank top and rise free from any unnecessary projections within the cargo space. Tight wooden flooring and ceiling or battens may be fitted in the cargo spaces of a steel barge in place of steel platings.

§ 176.98 Stowage of explosives.

Explosives required by this subchapter to be stowed in a magazine must, when on board a barge as cargo, be stowed either in a house or "under deck" when permitted for the particular type of barge by the table in § 176.99.

§ 176.99 Barges permitted to carry hazardous materials.

(a) The following table (Table III) specifies which classes of barges described in § 176.96 are authorized for the transportation of hazardous materials and prescribes certain conditions applicable thereto:

TABLE III

	Class "A" barge				Class "B" barge			Class "C" barge		Class "D" barge		Class "E" barge	
	AA	AB	AC	AD	BA	BB	BC	CA	CB	DA	DB	EA	EB
Explosives	Yes	Yes	Yes	On deck only	Yes	Yes	No	No	No	No	No	No	No
Flammable liquids	Yes[1]	Yes[2]	Yes	On deck only[1]	Yes	Yes[1]	No	Yes[1]	Yes[3]	No[8]	No	No	No
Flammable solids, oxidizers and organic peroxides	Yes[1,4]	Yes[2,5]	Yes	No	Yes	No	No	Yes[1]	Yes[3]	Yes	Yes	No	No
Corrosive materials	Yes, also bulk in tanks[9]	Yes, also bulk in tanks[9]	Yes, also bulk in tanks[9]	No, except bulk in tanks[9]	Yes, also bulk in tanks[9]	Yes, also bulk in tanks[9]	No, except bulk in tanks[9]	Yes[1]	Yes[3]	Yes	No	No	No
Flammable compressed gases	Yes	On deck only	Yes[7]	On deck only	No	No	No	Yes	On deck only	No	No	No	No
Nonflammable compressed gases	Yes	Yes	Yes	On deck only	Yes	Yes	No	Yes	Yes	No	No	No	No
Poison A, Poison B, and irritating materials	Yes[1]	Yes[2]	Yes	On deck only[1]	Yes	Yes[1]	No	Yes[1,4]	Yes[3,6]	No	No	No	No
Radioactive materials	Yes[1]	Yes[2]	Yes	On deck only[1]	Yes	Yes[1]	No	Yes[1,4]	Yes[3,6]	No	No	No	No
Other regulated materials	Yes[1,4]	Yes[2]	Yes	On deck only[1,4]	Yes	Yes[1,4]	No, except bulk in tanks[9]	Yes[1,4]	Yes[3,6]	Yes	Yes, except liquids	No	Yes

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[1] Outside containers vulnerable to damage by water may not be given this stowage.

[2] Outside containers vulnerable to damage by water must be stowed under deck only.

[3] Outside containers vulnerable to damage by water must be stowed under cover only.

[4] Substances affected by water may not be given this stowage.

[5] Substances affected by water must be stowed under deck only.

[6] Substances affected by water must be stowed under cover only.

[7] Stowage must be "on deck in house" only.

[8] Transportation of flammable or combustible liquids, in bulk, is governed by rules and regulations for tank vessels.

[9] Transportation of certain hazardous materials in bulk is governed by the rules and regulations contained in Supchapter O of Chapter I of Title 46 Code of Federal Regulations.

Note: Any container of hazardous materials vulnerable to damage by water or hazardous materials affected by water, when loaded in a weatherproof railroad vehicle in accordance with requirements of this subchapter, is exempt from the stowage restrictions shown in this Table and numbered (1) to (7), inclusive.

Subpart G—Detailed Requirements for Explosives

§ 176.100 Permit for Class A explosives.

(a) Before a shipment of Class A explosives may be discharged from, loaded on, handled, or restowed on board a vessel at any place in the United States, its territories, or its possessions (except the Panama Canal Zone), the carrier must obtain a permit from the nearest District Commander. Exceptions to this permit requirement may be given only by the District Commander or his authorized representative.

§ 176.105 Loading and unloading explosives.

(a) In any particular port, Class A or Class B explosives (except special fireworks), may not be loaded on a vessel until all other cargo has been loaded on board the vessel. No explosives may be loaded or unloaded at the same time that other cargo is being handled.

(b) All explosives must be handled carefully. Packages of explosives may not be thrown, dropped, rolled, dragged, or slid over each other or over a deck.

(c) Packaged Class A explosives must be loaded and discharged from a vessel by using a chute as provided for in § 176.163 or by a mechanical pallet, skipboard, tray or pie plate, fitted with a cargo net or sideboards. A stuffed mattress at least 4 feet wide by 6 feet long and not less than 4 inches thick, or a heavy jute or hemp mat of these dimensions, must be used for depositing explosives lifted by mechanical means or slid on a chute. The maximum load handled in a pallet, shipboard, tray, or pie plate may not exceed 2,640 pounds. A rope net sling with a pallet, skidboard, pie plate or similar base must be loaded so that a minimum displacement of items occurs when it is lifted; the cargo net must completely encompass the cotton and sides of the load. Not more than one-third of the vertical dimension of any package may extend above the sideboard of a tray. A landing mattress and cargo net are not needed for palletized Class A explosives.

(d) Blasting caps, detonating fuzes, fulminate of mercury, and other initiating or priming explosives defined in this subchapter constitute a distinct type of explosive. They must be handled with extreme care. A chute and mattress may not be used when loading or discharging this type of explosive.

(e) A "can" hook may not be used for raising or lowering a barrel, drum, or other container of explosives.

(f) A fire hose of sufficient length to cover the area of the loading operation and connected with an adequate water supply must be laid out and ready for use.

[Amdt. 176-1, 41 FR 16110, Apr. 15, 1976, as amended by Amdt. 176-1A, 41 FR 40690, Sept. 20, 1976]

§ 176.110 Condition of package.

A package of an explosive which is damp, moldy, stained or in any condition that indicates leakage may not be transported by vessel. The shipper must substantiate any claim that a stain is due to accidental contact with grease, oil, or a similar substance. In case of doubt, the package may not be transported.

§ 176.115 On deck stowage of explosives.

(a) The following requirements apply to the stowage of explosives on deck:

(1) An explosive may not be stowed on or under a bridge deck.

(2) An explosive may not be stowed nearer than 25 feet in a horizontal plane to the crew's quarters.

(b) Explosives being transported on deck on a vessel between receiving points and delivery points within the same harbor, bay, sound, lake, or river including explosive anchorages must be covered with a fire resistant or flame-proof tarpaulin securely lashed in place.

§ 176.120 Preparation of decks, gangways, hatches, and cargo ports.

(a) All decks, gangways, and hatches over or through which explosives must be passed or handled in loading or unloading must be freed of all loose material and must be swept broom clean before loading and unloading.

(b) All hatches and cargo ports opening into a compartment in which any explosives are stowed must be kept closed, except during loading or unloading of the compartment. After loading, hatches must be securely closed against the weather. If tarpaulins are used, they must be securely battened.

§ 176.125 Handling over deck loads on break-bulk vessels.

A deck load over which explosives must be passed may not exceed the height of the hatch coaming, bulwark, or three feet, whichever is greater.

§ 176.130 Securing and dunnaging of packages of explosives.

(a) Each package of explosives must be secured and dunnaged to prevent movement in any direction. Vertical restraints are not required if the shape of the package and the stuffing pattern precludes shifting of the load.

(b) Each keg of black powder must be stowed in an upright position with the bungs up and each tier must be completely dunnaged.

(c) Each package of explosives must be braced and dunnaged so that it is not likely to be pierced by the dunnaging or crushed by any superimposed weight.

§ 176.135 Location of magazines.

(a) Each magazine must be located in a hold, preferably a 'tween deck hold, that is dry and well ventilated. It may not be located in horizontal proximity to crew or passenger accommodations or below their living spaces. A magazine may not be built on or under the principal bridge structure or any navigation spaces. Except for inspection purposes, the hold or compartment in which a magazine is constructed must be closed off to all traffic after the explosives are stowed.

(b) A magazine may not be constructed in contact with a collision bulkhead or a bulkhead forming a boiler room, engine room, coal bunker or galley boundary unless there is no practicable alternative. If it is necessary to construct a magazine contacting one of these bulkheads, a cofferdam space of at least one foot must be provided between the permanent bulkhead and the magazine bulkhead. The cofferdam space must remain open to the free circulation of air and may not be used for stowage or storage purposes.

(c) When a magazine is constructed over a 'tween deck hatch, the hatch girders or strongbacks and the hatch covers forming the 'tween deck hatch must be of a design and size to carry the imposed load with safety. Covers of the 'tween deck and over-deck hatch must completely close the hatch opening and fit securely in place. 'Tween deck hatch covers of wood forming the base of a magazine must be completely covered with asbestos board at least ¼-inch thick, fitted tight at the sides of the magazine. The joints of the asbestos board must be staggered midway between the joints formed by the wooden hatch covers and the magazine must be constructed in accordance with the applicable provisions of § 176.138, except that the asbestos board must be completely covered with wood dunnage. No metal structural parts may protrude within any magazine. If the stowage of explosives extends into the over-deck hatch coaming, this coaming must be sheathed with wood. A magazine located in a hatchway may be constructed to occupy only a part of the hatchway. A portable magazine may be stowed in the square of a hatchway; it must be lashed or tommed to prevent movement.

(d) Any construction and location of a magazine for the stowage of explosives other than as provided in this subpart may be authorized only by the Commandant, (GMHM).

[Amdt. 176-1, 41 FR 16110, Apr. 15, 1976, as amended by Amdt. 176-1A, 41 FR 40690, Sept. 20, 1976]

§ 176.138 Construction of magazines.

(a) All magazine construction, and other conditioning of holds, deck, or hatches on a vessel, must be completed before the actual loading of explosives on that vessel is initiated.

(b) The following requirements must be observed in the construction of a magazine for stowage of explosives requiring magazine stowage:

(1) Each magazine must be constructed of steel or wood;

(2) Each magazine constructed of steel must have the interior completely protected by wood sheathing not less than ¾-inch thick to form a smooth surface free of any projections. All metal stanchions within the magazine must be boxed with wood not less than ¾-inch thick. When the floor of a magazine would be on a steel deck or tank top, a floor of wood not less than 1¼-inch commercial lumber, constructed on bearers, must be installed. This floor may be portable, but must be tight to prevent movement;

(3) Each magazine constructed of wood must have the bulkheads forming the sides and ends constructed of 1-inch lumber, ¾-inch tongue and groove sheathing, or ¾-inch plywood, secured to uprights of at least 3- by 4-inch size, spaced not more than 18 inches apart and secured at the top, bottom, and center with horizontal bracing. When ¾-inch plywood is used, the uprights may be spaced on 24-inch centers. Uprights may not be stepped directly to a metal deck. A 2- by 4-inch header must be fitted against the underside of the overhead deck to receive the top of the uprights. Top of uprights fitted against channel beams may be wedged directly to the beam with 2- by 4-inch spacers fitted between. Upright framing must be secured so that nails do not penetrate the interior of the magazine. When a magazine is constructed as a permanent compartment in a vessel, increased size and finish of lumber and other methods of fastening may be used, provided all fastenings are recessed below the surface of the boarding to avoid any projections within the interior of the magazine. All boarding must be fitted and finished to form a smooth surface within the interior of the magazine.

The construction must separate all containers of explosives from contact with metal surfaces of the structures of the vessel. When a metal stanchion, post, or other obstruction is located in the interior area of the magazine, this obstruction must be completely covered with wood at least ¾-inch thick secured with nails or screws. All screws or nails used in the interior of the magazine for fastening must be counter-sunk below the surface of the wood. Flooring of each magazine must be not less than 1¼-inch commercial lumber, constructed on bearers. This floor may be portable but must be tight to prevent movement. Each door of a magazine must be of substantial construction, fitted reasonably tight in its jamb, and provided with a locking method of a tamper-proof type. The door must be easily accessible;

(4) Plywood 5/16-inch thick may be used if the bulkheads forming the sides of a magazine are to be constructed directly against the ship's side and battens are fitted, and if the plywood is securely fastened to vertical furring strips of not less than 1- by 3-inch material, spaced not more than 18 inches apart;

(5) A magazine constructed in accordance with the provisions of paragraphs (b) (2) and (3) of this section, in which it is proposed to stow containers of explosives within 12 inches of the overhead beams or hatch coaming must have such beams and coaming sheathed with wood as prescribed by the provisions of paragraph (b)(2) of this section for stanchions; and

(6) When a Class A explosive magazine exceeds 40 feet in any direction, a partition bulkhead must be fitted in the magazine as near half length as practicable, extending from the deck to at least the top of the stowage. This partition bulkhead must be constructed to the same scantlings as the sides of the maga-

zine, except the boardings may be spaced not more than 6 inches apart alternately on both sides of the uprights. Nail points may not protrude beyond the surface of any boardings. The bulkhead must be constructed before loading commences. This bulkhead is not required when the explosives are palletized.

[Amdt. 176-1, 41 FR 16110, Apr. 15, 1976, as amended by Amdt. 176-1A, 41 FR 40690, Sept. 20, 1976]

§ 176.141 Entire hold or compartment forming magazine.

When a complete hold or compartment is used for the stowage of explosives requiring magazine stowage, the entire hold or compartment may be considered a magazine. Any frames or bulkhead stiffeners protruding into the hold or compartment must be effectively sheathed to provide a smooth surface. Overhead beams need not be sheathed when the explosives are stowed more than 12 inches from these beams. If explosives are stowed up to the overhead beams and in the square of the hatch formed by the coaming, the overhead beams, including the hatch coaming, must be effectively sheathed. The installation of sheathing must be in accordance with the specifications for the construction of a magazine. However, when cargo battens are fitted to the vessel's shell or a bulkhead forming part of the hold or compartment, the sheathing may be secured vertically to the battens.

§ 176.144 Ventilation of magazines.

Each magazine must be effectively ventilated. Each cowl ventilator's weather deck opening must be covered with a 30x30 or finer mesh wire screen, if it leads into a magazine or to an area in the same hold adjacent to a magazine. A magazine which occupied only a portion of a hold, and is not fitted with a ventilator entering into the magazine, must be constructed to leave an open space of not more than one inch below the overhead frame.

[Amdt. 176-1, 41 FR 16110, Apr. 15, 1976, as amended by Amdt. 176-1A, 41 FR 40690, Sept. 20, 1976]

§ 176.147 Metal lockers for stowage of fireworks.

Each metal locker for the stowage of special fireworks which are permitted to be transported on board passenger vessels must meet the following requirements:

(1) *Size.* The cubic capacity of the locker may not exceed 150 cubic feet.

(2) *Division.* If the locker is more than 5 feet in height, it must be fitted with a division shelf at about ½ height constructed to carry the imposed load without deflection.

(3) *Gauge.* The thickness of steel used in the construction of the locker may not be less than 16 gauge steel.

(4) *Type of construction.* The locker must have a completely smooth interior surface. No stiffener element may project beyond any interior surface. The locker must be fitted with a top and bottom closure unless it is "built-in" to the structure of the vessel with the overhead and deck forming the top and bottom of the locker. "Built-in" construction is not authorized if the overdeck or underdeck is wood.

(5) *Closures.* Closures may be the removable plate or hinged door type if the locker is flame tight when closed. A locker having a portable plate closure must have an accessible side opening to permit insertion of a fire hose nozzle for flooding. The opening must be at least 3 inches in diameter, not more than 12 inches below the top of the locker, and fitted with a metal flap cover to preserve the flame tight requirement.

(6) *Location.* The locker must be readily accessible from a companionway or cargo hatch. In vessels constructed of wood, the locker must be easily observable by a watchman on his rounds. The locker must be secured to prevent shifting in a seaway.

§ 176.150 Portable magazines for stowage of explosives.

(a) Each portable magazine used for the stowage of explosives on board a vessel must meet the following requirements:

(1) It must be watertight, constructed of wood or of metal lined with wood at least ¾-inch thick and with a capacity of no more than 110 cubic feet.

(2) All inner surfaces must be smooth and free of any protruding nails, screws, or other projections.

(3) If constructed of wood, the scantlings and arrangement must be not less than those required by § 176.138. It must be provided with a strong close-fitting, hinged cover or door with hasps and padlock.

(4) When constructed of metal, the metal must not be less than ⅛-inch thick.

(5) Runners, bearers, or skids must be provided to elevate the magazine at least 4 inches from the deck. Pad eyes, ring bolts, or other suitable means must be provided for securing. The magazine must be lashed, chocked, or braced to prevent movement in any direction.

(6) The magazine must be stowed in the square of a 'tween deck hatch unless another stowage is authorized by § 176.155.

(7) The magazine must be marked on the top and four sides, in letters at least 3 inches high, as follows:

"EXPLOSIVES—HANDLE CAREFULLY—KEEP LIGHTS AND FIRE AWAY".

(b) A portable magazine may be used for the stowage of explosives exceeding 110 cubic feet under such conditions of construction, handling, and stowage that meet the approval of the Commandant (GMHM).

§ 176.155 Stowage of small quantities of explosives.

(a) A District Commander may approve the stowage of small quantities of explosives in a location other than "under deck", such as in an isolated compartment, mast or deck house, or in a magazine (which may be portable) secured "on deck" if:

(1) No other stowage is available;

(2) The compartment or stowage area is sheathed with wood;

(3) The boundary of the compartment or magazine is at least 8 feet from the vessel's side; and

(4) The boundary of the explosives stowage area is separated from other incompatible explosives and other hazardous materials by at least one permanent steel deck or bulkhead and a distance of 25 feet or by at least two steel decks or bulkheads and a distance of 10 feet. An intervening steel deck or bulkhead is not required on deck if the separation distance between these materials is not less than 40 feet in any direction.

§ 176.156 Stowage of explosives with combustible liquids.

Class A or B explosives may not be stowed in the same hold or compartment with combustible liquids.

§ 176.157 Stowage of explosives in holds containing coal.

An explosive may not be stowed in a hold containing coal or in a hold above or adjacent to a hold containing coal.

§ 176.158 Stowage of explosives with fireworks.

Fireworks may not be stowed in the same hold in which there is a magazine containing explosives.

§ 176.159 Stowage of explosives and non-dangerous cargo.

Each magazine in which explosives are stowed must be protected from damage which may be caused by any heavy cargo stowed in the same hold. When any shafting, steel bar, pipe, heavy machinery, or similar type of cargo is stowed in the same hold with explosives, it must be isolated, dunnaged, or secured to prevent damage to the magazine under any conditions likely to be encountered during the voyage.

§ 176.163 Requirements of equipment for handling explosives.

(a) A chute for loading and unloading explosives must be constructed of smooth planed boards not less than one inch thick with side guards of the same material at least 4 inches high. Only brass screws may be used to assemble the sides and bottom. D-shaped wooden strips or runners not more than six inches apart and running the length of the chute must be fastened to the upper surface of the slide by glue and wooden dowels extended through the bottom of the chute. Four lashing rings must be provided, one at each outside corner of the chute, for purposes of securing during use.

(b) A roller conveyor constructed of aluminum or other non-sparking material may be used for loading or unloading explosives. The conveyor must be grounded when in use.

(c) A powered conveyor may be used only after the design, construction, and specifications have been approved by the Commandant (GMHM).

(d) Before any explosives are loaded or unloaded from a vessel, the master of the vessel must examine the condition and working order of all slings, carts, baskets, boxes, chutes, mattresses, tackle and other equipment to be used in the transfer operation. This includes equipment belonging to the vessel, stevedores, and any contractors.

(e) Any equipment which in the judgment of the master of the vessel is not in a safe working condition must be rejected. He shall prohibit its use and take the precautions necessary to ensure that the rejected equipment is not used to load or unload explosives. The master of the vessel shall ensure that all equipment used in the handling of explosives is in good working order. If any part of the equipment shows any defect or is damaged in use, work must be stopped immediately and the damaged or defective equipment repaired or replaced before permitting the loading or unloading to continue.

§ 176.165 Installation of loading chute and roller conveyor.

A chute or roller conveyer to be used in loading or unloading explosives may not be positioned or inclined in a manner which will permit any sliding package to violently strike any other package on or at the bottom of the chute or conveyer. Personnel may be stationed alongside the chute or conveyer to control the velocity of the packages to prevent any violent shock. Each chute must be wiped with machine oil before any package of explosives is transferred.

§ 176.167 Lights, tools, and equipment.

(a) No artificial light except electric lights or electric lamps or floodlights may be used on board a vessel during the loading or unloading of explosives.

(b) The carrier shall provide flashlights of a non-sparking type for persons required to enter holds in which explosives are stowed.

(c) No person on board a vessel loading, unloading or transporting explosives may carry firearms, matches, bale hooks, or metallic tools of other than the non-sparking type on board.

(d) No person engaged in loading or unloading Class A or Class B explosives may wear boots or shoes shod or strengthened with iron nails or other metal, unless the boots or shoes are covered with rubber, leather, felt or other non-sparking material.

§ 176.169 Fires.

(a) No fire is permitted on any dock, lighter, or vessel involved in the loading or unloading of explosives during the loading or unloading unless the fire is necessary.

(b) If a fire is necessary it must be properly safeguarded and under the direct observation of a competent person assigned for that purpose by the master of the vessel for the entire period of cargo transfer.

§ 176.171 Smoking.

(a) Smoking is prohibited on and near any vessel loading or unloading explosives at a waterfront facility. The Coast Guard officer having jurisdiction may designate smoking areas at a safe distance from the vessel. "NO SMOKING" signs must be posted during operations of handling, loading, or unloading the cargo. At least one "NO SMOKING" sign must be conspicuously posted on the pier at a reasonable distance from the vessel during the handling, loading or unloading of explosives.

(b) Smoking is prohibited on and near any vessel handling, loading or unloading explosives at an explosives anchorage. However, the Coast Guard officer having jurisdiction may, with the concurrence of the master or person in charge of the vessel, designate a compartment as a smoking area. "NO SMOKING" signs must be posted conspicuously outside the entrance to this compartment and in other parts of the vessel during the loading or unloading operations.

§ 176.173 Liquor or drugs.

A person who the master of a vessel finds, in his judgment, to be under the influence of liquor or drugs, may not be permitted on board during the loading, unloading, or transporting of explosives.

§ 176.177 Magazine vessels.

(a) *General.* The requirements of this section are applicable to magazine vessels and are in addition to any prescribed elsewhere in this subchapter.

(b) *Type vessel authorized.* A single deck vessel with or without a house on deck is the only type vessel that may be used as a magazine vessel. A magazine vessel may not be moved while explosives are on board.

(c) *Location of explosives.* Class A and Class B explosives in excess of 5,000 pounds stored in any magazine vessel must be stowed below deck. No explosive may be stowed on deck unless the vessel is fitted with a deck house having a stowage area which meets the requirements in this subpart for the stowage of explosives. Quantities of blasting caps in excess of 1,000 may not be stored on the same magazine vessel with Class A or Class B explosives.

(d) *Explosives storage spaces.* Any compartment on a magazine vessel used for the stowage of explosives must be completely ceiled with wood so as to provide a smooth interior surface. Each metal stanchion in the compartment must be boxed in the same manner. An overhead ceiling is not required when the overdeck is weathertight. All nail and bolt heads must be countersunk and any exposed metal must be covered with wood.

(e) *Primers and blasting caps.* No initiating or priming explosive may be stowed in the same compartment with any other explosive when there is any high explosive on the same magazine vessel. Blasting caps must be stowed at least 25 feet from any bulkhead forming a boundary of a compartment containing any other explosives.

(f) *Dry storage spaces.* A magazine vessel having a dry storage space capable of being used for any purpose whatsoever must have a cofferdam at least 24 inches wide fitted between the dry storage space and each adjacent compartment containing explosives. The cofferdam must be constructed of wood or steel, formed by two tight athwartship bulkheads extending from the skin of the vessel to the overdeck. If the cofferdam extends to the weather deck, a watertight hatch must be fitted in the deck to provide access to the cofferdam.

(g) *Lighting.* Non-sparking, battery-powered, self-contained electric lanterns or non-sparking hand flashlights are the only means of artificial light authorized.

(h) *Living quarters.* Living quarters must be fitted on the inside with asbestos board or other equivalent fire resistant material. Bracketed ship's lamps are the only lighting fixtures authorized to be used in the living quarters. Any stove used for heating or cooking must be securely fastened and may not be mounted closer than 6 inches to the deck or sides of the house. Any smoke pipe for the stove which passes through the roof of the house must be kept at least 3 inches away from any woodwork. Each smoke pipe must be protected by a layer of asbestos, an air space of at least 1 inch, and a metal collar of at least 16 gauge sheet secured only on the weather side of the roof. There may be no opening from any living quarters into any stowage compartment.

(i) *Storage of other hazardous materials.* Magazine vessels having explosives on board may not be used for the storage of any other hazardous material.

(j) *Magazine vessel's stores.* Articles for use as stores on board any magazine vessel must be in compliance with the requirements of 46 CFR Part 147.

(k) *Matches.* Safety matches requiring a prepared surface for ignition are the only type of matches authorized for use on board a magazine vessel. They must be kept in a metal box or can with a metal cover and stored in the custodian's living quarters.

(l) *Firearms.* Firearms and ammunition (other than cargo) are not permitted on board a magazine vessel.

(m) *Fire extinguishing equipment.* No explosive may be received, stored, or dispensed from any magazine vessel, unless four 2½-gallon extinguishers of the soda-acid type and four 2-gallon pails filled with dry sand are placed about the vessel. The contents of each liquid extinguisher continuously exposed to a temperature lower than 40 degrees F. (45 degrees C.) must be modified or otherwise protected to prevent freezing.

(n) *Supervision.* A magazine vessel containing explosives must be continuously attended by a custodian employed for that purpose by the vessel's owner.

(o) *Unauthorized persons on magazine vessels.* The custodian of a magazine vessel shall prevent unauthorized persons from coming on board unless it is necessary to abate a hazard to human life or a substantial hazard to property.

(p) *Repacking of explosives on board.* No explosive may be repacked on board a magazine vessel. Any broken or damaged package must be placed in an open box and carried to a safe location for repacking or other disposition.

(q) *Work boat.* Each magazine vessel must be equipped with a work boat.

(r) *Life preservers.* One approved personal flotation device must be available for each person employed on a magazine vessel.

(s) *Fenders.* Each magazine vessel must be fitted with fenders in sufficient number and size to prevent any vessel tieing up alongside from coming in contact with the hull.

Subpart H—Detailed Requirements for Compressed Gases

§ 176.200 General stowage requirements.

(a) Each package of compressed gas being transported by vessel must be prevented from making direct contact with the vessel's deck, side or bulwark by dunnage, shoring, or other effective means.

(b) When cylinders of compressed gas being transported by vessel are stowed horizontal, each tier must be stowed in the cantilines of the lower tier and the valves on cylinders in adjacent tiers must be at alternate ends of the stow. Each tier may be stepped back and the ends alternated in order to clear the flange. Lashing must be provided to prevent any movement.

(c) When cylinders of compressed gas being transported by vessel are stowed in a vertical position they must be stowed upright in a block and cribbed or boxed in with suitable sound lumber. The box or crib must be dunnaged at least 4 inches off any metal deck. The cylinders in the box or crib must be braced to prevent any movement. The box or crib must be securely chocked and lashed to prevent any movement.

(d) A compressed gas packaging, bearing a Poison label, must be stowed away from all foodstuffs.

(e) Compressed gas may not be stowed "on deck" over a hold or compartment containing coal.

§ 176.205 Under deck stowage requirements.

(a) When compressed gas is stowed below deck, it must be stowed in a hold or compartment capable of being ventilated with no source of artificial heat and clear of crew and passenger living spaces. No bulkhead or deck of the hold or compartment may be a common boundary with any boiler room, engine room, coal bunker, galley or boiler room uptake.

(b) When flammable compressed gas is stowed below deck, it must be stowed in a hold or compartment which complies with paragraph (a) of this section and the following requirements:

(1) Each hold or compartment must be ventilated.

(2) Each hold or compartment must be equipped with an overhead water sprinkler system or fixed fire smothering system.

(3) Each electrical power line in the hold or compartment must be protected by a strong metal covering to prevent crushing by cargo being stowed against it.

(4) Except when fitted with electrical fixtures of the explosion-proof type, each electrical circuit serving the hold or compartment must be disconnected from all sources of power. No circuit may be energized until the flammable compressed gas cargo and any vapors have been removed from the hold or compartment. Portable lighting of the explosion-proof type may be used if the source of power is from electrical outlets outside the hold or compartment and above the weather deck.

(5) Any opening in a common bulkhead of an adjacent hold or compartment must be securely closed off and made gas tight, unless the adjacent hold or compartment is also used for the stowage of flammable compressed gas.

(6) Full and efficient hatch covers must be used. Tarpaulins, if fitted, must be protected by dunnaging before overstowing with any cargo. Each tarpaulin must be in one piece and free of rents, tears, and holes.

(7) A fire screen must be fitted at the weather end of each vent duct leading from the hold or compartment. The fire screen must completely cover the open area. It must consist of two layers of fine brass wire screen at least 20x20 mesh or finer, spaced not less than ½ inch or more than 1½ inches apart. The screen may be removable if means for securing it in place when in service are provided.

(8) The hold or compartment may not be fitted with any gooseneck type vent trunk head.

(9) All electrical apparatus located in the hold or compartment must have a positive means for disconnecting from power outside the hold or compartment containing any flammable compressed gas.

[Amdt. 176-1, 41 FR 16110, Apr. 15, 1976, as amended by Amdt. 176-1A, 41 FR 40690, Sept. 20, 1976]

§ 176.210 On deck stowage requirements.

Cylinders of compressed gas being transported by vessel must be protected from the direct rays of the sun by structural erections or awnings. A tarpaulin covering the cylinders is not acceptable if it comes in contact with them.

§ 176.220 Smoking or open flame and posting of warning signs.

(a) Smoking or the use of open flame is prohibited in any hold or compartment containing a flammable compressed gas, near any flammable compressed gas stowed on deck, or near any ventilator leading to a hold containing this material.

(b) A sign carrying the legend:

FLAMMABLE VAPORS
KEEP LIGHTS AND FIRE AWAY
NO SMOKING

must be conspicuously posted at each approach to an "on deck" flammable compressed gas stowage area and near each cargo hold ventilator leading to a hold containing this material. The sign must be painted on a white background using red letters. The letters may not be less than 3 inches high.

§ 176.225 Stowage of chlorine.

Chlorine may not be stowed in the same hold or compartment with metallic sodium or potassium, phosphorus, copper or brass leaf sheets, powdered antimony, turpentine, ammonia, finely divided organic material, coal gas, hydrogen, or acetylene.

Subpart I—Detailed Requirements for Flammable Liquids and Combustible Liquids

§ 176.305 General stowage requirements.

(a) Except as otherwise provided in § 176.76(g), a package containing a flammable liquid and equipped with a vent or safety relief device must be stowed "on deck" only.

(b) The following requirements apply to each hold or compartment in which a flammable or cumbustible liquid is being transported:

(1) The hold or compartment must be ventilated except that the stowage of packaged flammable liquids with a capacity of 110 gallons or less and with flash points above 73° F. may be in non-ventilated holds.

(2) Stowage of these liquids within 20 feet of a bulkhead which forms a boundary or deck of a boiler room, engine room, coal bunker, galley, or boiler room uptake is not permitted. If the amount of the liquid to be stowed in a hold will not permit compliance with the requirement for a 20-foot separation, less separation distance is authorized if at least one of the following conditions exists:

(i) The bulkhead or deck is covered with at least 3 inches of insulation on the entire area subject to heat;

(ii) A temporary wooden bulkhead at least 2 inches thick is constructed in the hold at least 3 inches off an engine room or 6 inches off a boiler room bulkhead, covering the entire area of the bulkhead that is subject to heat and the space between the permanent bulkhead and the temporary wooden bulkhead is filled with bulk asbestos or mineral wool; or

(iii) A temporary wooden bulkhead is constructed of at least one inch thick tongue and groove sheathing, located 3 feet from the boiler room or engine room bulkhead, and filled with sand to a height of 6 feet above the tank top, or, if the cargo compartment is located between decks, 3 feet of sand.

(3) Combustible liquids may be stowed in a hold within 20 feet of a common bulkhead with the engine room if the means of vessel propulsion is internal combustion engines; and

(4) Each cargo opening in a bulkhead of an adjacent hold must be securely closed off and made gas tight, unless the adjacent hold is also used for the stowage of a flammable or combustible liquid.

(c) In addition to the requirements specified in paragraph (b) of this section, the following requirements apply to each hold or compartment in which a flammable liquid is transported:

(1) Full and effective hatch covers must be used. Tarpaulins, if fitted, must be protected by dunnaging before overstowing with any cargo. Each tarpaulin must be in one piece and free of rents, tears, and holes;

(2) If flammable liquids in excess of one ton are stowed under deck in any one hold or compartment, a fire screen must be fitted at the weather end of each vent duct leading from that hold or compartment. The fire screen must completely cover the open area. It must consist of two layers of fine brass wire screen at least 20 x 20 mesh or finer spaced not less than ½ inch or more than 1½ inches apart. The screen may be removable if means for securing it in place when in service are provided;

(3) Each electrical power line in the hold or compartment must be protected by a strong metal covering to prevent crushing by cargo being stowed against it;

(4) Except when fitted with electrical fixtures of the explosion-proof type, each electrical circuit serving the hold or compartment must be disconnected from all sources of power from a point outside the hold or compartment containing the flammable liquid. No circuit may be energized until the flammable liquids and any vapors have been removed from the hold or compartment. Portable lighting of the explosion-proof type may be used if the source of power is from electrical outlets outside the hold or compartment and above the weather deck;

(5) Flammable liquids in excess of one ton may not be transported in any hold or compartment, that is fitted with a gooseneck type of vent head.

(d) On a passenger vessel, each hold or compartment used to transport flammable liquids must be equipped with an overhead water sprinkler system or fixed fire smothering system.

(e) On a passenger vessel, each hold or compartment used to transport a flammable liquid under a passenger space must have an overdeck of an A–60 type construction (see 46 CFR 72.05–10(c)(1)) or equivalent or have its underside covered with at least 3 inches of noncombustible insulation.

(f) No flammable liquid in a drum or wooden case, having inside packagings of more than one quart capacity each, may be stowed as a beam filler. A wooden barrel, a wooden box or a fiberboard box, with any flammable liquid in inside packagings of not more than one quart capacity each, may not be stowed as a beam filler unless it is possible to stow and observe any "THIS SIDE UP" marking.

[Amdt. 176–1, 41 FR 16110, Apr. 15, 1976, as amended by Amdt. 176–1A, 41 FR 40690, Sept. 20, 1976]

§ 176.315 Fire protection requirements.

(a) For each 21,000 U.S. gallons (or part thereof) of any flammable or combustible liquid being transported on board a vessel in a portable tank, tank car, or a tank truck, there must be provided at least one B–V semiportable foam (40 gallon capacity) (see 46 CFR 95.50), dry chemical (100 lbs. minimum capacity) or equivalent fire extinguisher, or a fire hose fitted with an approved portable mechanical foam nozzle with pick-up tube and two 5 gallon cans of foam liquid concentrate. Each foam system must be suitable for use with each flammable or combustible liquid it is intended to cover. Each fire extinguisher must be accessible to the tank it is intended to cover.

(b) The fire hose at each fire hydrant in the vicinity of flammable or combustible liquid stowage areas must be fitted with an approved combination spray nozzle.

(c) The pressure must be maintained in the vessel's fire mains during the loading and unloading of the flammable or combustible liquid.

(d) Two 15-pound capacity hand portable dry chemical or two portable 2½-gallon form-type extinguishers must be accessible to any packaged flammable or combustible liquid and suitable for use with the lading.

(e) The requirements of this section do not apply to portable tanks and their contents authorized under 46 CFR Subpart 93.35 or 46 CFR Part 64.

[Amdt. 176–1, 41 FR 16110, Apr. 15, 1976, as amended by Amdt. 176–1A, 41 FR 40690, Sept. 20, 1976]

§ 176.320 Use of hand flashlights.

Each hand flashlight used in a hold or compartment containing any flammable liquid, or on deck near any flammable liquid, must be of the non-sparking type.

§ 176.325 Smoking or open flame and posting of warning signs.

(a) Smoking or the use of open flame is prohibited in any hold or compartment containing a flammable or combustible liquid, near any flammable or combustible liquid stowed on deck, or near any ventilator leading to a hold containing such material.

(b) A sign carrying the legend:

FLAMMABLE VAPORS
KEEP LIGHTS AND FIRE AWAY
NO SMOKING

must be conspicuously posted at each approach to a flammable or combustible liquid stowed "on deck" and near each cargo-hold ventilator leading to a hold or compartment containing this material. This sign must be painted on a white background using red letters. The letters may not be less than 3 inches high.

Subpart I—Detailed Requirements for Flammable Liquids and Combustible Liquids

Sec.
176.305 General stowage requirements.
176.315 Fire protection requirements.
176.320 Use of hand flashlights.
176.325 Smoking or open flame and posting of warning signs.
176.331 Transportation of flammable liquids with foodstuffs.

Subpart J—Detailed Requirements for Flammable Solids, Oxidizers and Organic Peroxides

176.400 Stowage of oxodizers and organic peroxides.
Sec.
176.405 Stowage of charcoal.
176.410 Nitro carbo nitrate and ammonium nitrates.
176.415 Permit requirements for nitro carbo nitrate and certain ammonium nitrates.
176.419 Flammable solids or oxidizers transported with foodstuffs.

Subpart K—[Reserved]

Subpart L—Detailed Requirements for Poison A, Poison B, and Irritating Materials

176.600 General stowage requirements.
176.605 Care following leakage or sifting of poisons A or B.

Subpart M—Detailed Requirements for Radioactive Materials

176.700 General stowage requirements.
176.710 Care following leakage or sifting of radioactive materials.
176.715 Contamination control.

Subpart N—Detailed Requirements for Corrosive Materials

176.800 General stowage requirements.
176.805 On deck stowage.

Subpart O—Detailed Requirements for Other Regulated Materials (ORM)

176.900 Stowage of cotton and fibers generally.
176.901 Stowage of cotton or fibers with rosin or pitch.
176.902 Stowage of cotton or fibers with vegetable, animal, or rosin oil.
176.903 Stowage of cotton or fibers with coal.
176.904 Cotton or fibers with synthetic nitrate of soda.
176.905 Motor vehicles or mechanical equipment powered by internal combustion engines.

AUTHORITY: 46 U.S.C. 170(7), 49 CFR 1.53(f).

§ 176.331 Transportation of flammable liquids with foodstuffs.

Each package containing a flammable liquid which bears a Poison label must be stowed separate from foodstuffs.

Subpart J—Detailed Requirements for Flammable Solids, Oxidizers and Organic Peroxides

§ 176.400 Stowage of oxidizers and organic peroxides.

(a) No oxidizer or organic peroxide being transported by vessel may be stowed in the same hold or compartment with any readily combustible material such as a combustible liquid, a textile product, or with a finely divided substance such as an organic powder.

(b) No oxidizer or organic peroxide being transported by vessel may be stowed in a hold or compartment containing sulfur in bulk, or in any hold or compartment above, below, or adjacent to one containing sulfur in bulk.

§ 176.405 Stowage of charcoal.

(a) Before stowing charcoal on a vessel for transportation, the hold or compartment in which it is to be stowed must be swept broom clean. All residue of former cargo, including a petroleum product, a vegetable or animal oil, nitrate, or sulfur, must be removed.

(b) Charcoal packed in bags and offered for transportation on board a vessel in a quantity over one ton must be loaded so that the bags are laid horizontally and stacked with space for efficient air circulation. If the bags are not compactly filled and closed to avoid free space within, vertical and horizontal dunnage strips must be laid between the bags. Space for ventilating must be maintained near bulkheads, the shell of the vessel, the deck and the overhead. No more than 40 tons of charcoal may be stowed in a hold or compartment when other stowage space is available. If the unavailability of hold or compartment space requires the stowage of a larger amount, the arrangement of the stow for ventilation must be adjusted to ensure a sufficient venting effect.

(c) Any loose material from bags broken during loading must be removed. Broken bags may be repacked or have the closures repaired and the repaired bags restowed.

(d) Charcoal "screenings" packed in bags must be stowed to provide spaces for air circulation between tiers regardless of the quantity stowed.

§ 176.410 Nitro carbo nitrate and ammonium nitrates.

(a) This section prescribes requirements to be observed with respect to transportation of each of the following hazardous materials by vessel:

(1) Nitro carbo nitrate.

(2) Ammonium nitrate (no organic coating).

(3) Ammonium nitrate (organic coating).

(4) Ammonium nitrate-carbonate mixture.

(5) Ammonium nitrate fertilizer (*containing no more than 0.2 percent carbon*).

(6) Ammonium nitrate mixed fertilizer.

(7) Ammonium nitrate phosphate.

(b) This section does not apply to any non-acidic ammonium nitrate mixed fertilizer containing 13 percent or less ammonium nitrate, less than 5 percent organic material, no other oxidizing material, and which does not meet the criteria for any other hazard class set forth in Part 173 of this subchapter.

(c) When nitro carbo nitrate or any of the ammonium nitrates listed in paragraph (a) of this section is transported by vessel:

(1) It must be stowed well away from any steam pipe, electric circuit, or other source of heat;

(2) Smoking may not be permitted except in designated areas away from the material and "No-Smoking" signs must be posted in accordance with § 176.60;

(3) Fire hoses must be connected, laid out, and tested before loading or unloading commences; and

(4) A fire watch must be posted in the hold or compartment where the material is being loaded or unloaded.

(d) When nitro carbo nitrate or any of the ammonium nitrates listed in paragraph (a) of this section are transported in bags by vessel:

(1) The requirements specified in paragraph (c) of this section must be complied with;

(2) The temperature of the bagged material may not exceed 130 degrees F.;

(3) Minimum dunnage and sweatboards must be used to prevent any friction or abrasion of bags, and to allow for the circulation of air and access of water in the event of fire;

(4) The bags must be stowed from side to side, out to the sweatboards;

(5) A space of 18 inches must be provided between any transverse bulkhead and the bags;

(6) The bags must be stowed so as to provide an 18-inch athwartship trench along the centerline of the compartment, continuous from bottom to top;

(7) The bags must be stowed so as to provide an 18-inch amidship trench running fore and aft from bulkhead to bulkhead;

(8) The bags may not be stowed closer than 18 inches from any overhead deck beam;

(9) The bags must be stowed so as to provide vent flues 14 inches square at each corner of the hatch continuous from top to bottom;

(10) Trenching must be accomplished by alternating the direction of the bags in each tier (bulkheading); and

(11) The bags must be blocked and braced as necessary to prevent shifting of the bagged cargo adjacent to any trench area.

(e) Nitro carbo nitrate or any of the ammonium nitrates listed in paragraph (a) of this section may be transported by vessel with dynamite, commercial boosters, or other non-priming, non-initiating types of explosives which are compatible with dynamite:

(1) In the same hold or compartment with the explosives or in a hold or compartment adjacent to the explosives if the nitro carbo nitrate or ammonium nitrate is packaged in strong metal cans, metal or fiber drums, barrels, kegs, or wooden or fiberboard boxes with non-combustible inside packagings; or

(2) In proximity to the explosives if the two are separated by a steel deck or bulkhead, or a fire retardant wooden bulkhead built to the specifications of § 176.138(b)(3). The deck or bulkhead must be sheathed on the oxidizing materials stowage side with one-inch asbestos board.

(f) An ammonium nitrate mixture containing any ingredient which would accelerate the decomposition of ammonium nitrate under conditions incident to transportation may not be transported by vessel.

[Amdt. 176-1, 41 FR 16110, Apr. 15, 1976, as amended by Amdt. 176-1A, 41 FR 40691, Sept. 20, 1976]

§ 176.415 Permit requirements for nitro carbo nitrate and certain ammonium nitrates.

(a) Except as provided in paragraph (b) of this section, before any of the following material is loaded on or unloaded from a vessel at any waterfront facility in the United States, its territories, or its possessions (except Panama Canal Zone), the carrier concerned must obtain written permission from the nearest District Commander, U.S. Coast Guard or Captain of the Port:

(1) Ammonium nitrate (organic coating).

(2) Ammonium nitrate mixtures containing more than 60 percent ammonium nitrate, ammonium nitrate-phosphate, or nitro carbo nitrate, packaged in a paper bag, burlap bag, or other non-rigid combustible packaging, or any rigid container with combustible inside packagings.

(3) Any other ammonium nitrate or ammonium nitrate mixture not listed in § 176.410 (a) or (b).

(b) Any of the following may be loaded on or unloaded from a vessel at any waterfront facility without a permit:

(1) Ammonium nitrate (no organic coating) in a rigid container with non-combustible inside packaging.

(2) Ammonium nitrate fertilizer in a rigid container with non-combustible inside packaging.

(3) Ammonium nitrate-phosphate in a rigid container with non-combustible inside packaging.

(4) Ammonium nitrate-carbonate mixture containing 40 percent or more fine calcium carbonate or dolomite.

(5) Non-acidic ammonium nitrate mixed fertilizer containing less than 5 per cent organic material and 60 per cent or less ammonium nitrate.

(c) Before a permit may be issued the following requirements must be met in addition to any others the District Commander or Captain of the Port may require:

(1) If the material is ammonium nitrate (organic coating), ammonium nitrate-phosphate, or nitro carbo nitrate in non-rigid combustible packaging or in a rigid container with combustible inside packaging, it must be loaded or unloaded at a facility remote from populous areas or high value or high hazard industrial facilities so that in the event of fire or explosion loss of lives and property may be minimized;

(2) If the material is ammonium nitrate (organic coated) in rigid metal drums with non-combustible inside packagings, nitro carbo nitrate in rigid containers with non-combustible inside packagings, an ammonium nitrate mixture containing more than 60 percent ammonium nitrate, or ammonium nitrate-phosphate, in rigid containers with combustible inside packagings, it must be loaded or unloaded at a facility removed from congested areas or high value or high hazard industrial facilities;

(3) Each facility at which the material is to be loaded or unloaded must conform with the requirements of the port security and local regulations and must have an abundance of water readily available for fire fighting; and

(4) Each facility at which the material is to be loaded or unloaded must be located so that each vessel to be loaded or unloaded has an unrestricted passage to open water. Each vessel must be moored bow to seaward, and must be maintained in a mobile status during loading, unloading, or handling operations by the presence of tugs or the readiness of engines. Each vessel must have two wire towing hawsers, each having an eye

spice, lowered to the water's edge, one at the bow and the other at the stern.

[Amdt. 176-1, 41 FR 16110, Apr. 15, 1976, as amended by Amdt. 176-1A, 41 FR 40691, Sept. 20, 1976]

§ 176.419 Flammable solids or oxidizers transported with foodstuffs.

Each package containing a flammable solid or an oxidizer, bearing a Poison label and being transported on a vessel must be stowed separate from foodstuffs.

Subpart K—[Reserved]

Subpart L—Detailed Requirements for Poison A, Poison B, and Irritating Materials

§ 176.600 General stowage requirements.

(a) Each package bearing a Poison label and being transported on a vessel must be stowed well away from living quarters and any ventilation ducts serving living quarters and separate from foodstuffs.

(b) Each package bearing both a Poison Gas label and a Flammable Gas label must be segregated as a flammable compressed gas.

[Amdt. 176-1, 41 FR 16110, Apr. 15, 1976, as amended by Amdt. 176-1A, 41 FR 40691, Sept. 20, 1976]

§ 176.605 Care following leakage or sifting of poisons A or B.

A hold or compartment containing a package of poison A or B which has leaked or sifted must be thoroughly cleaned and decontaminated after the cargo is unloaded and before the hold or compartment is used for the stowage of any other cargo.

Subpart M—Detailed Requirements for Radioactive Materials

§ 176.700 General stowage requirements.

(a) Each package or container bearing "RADIOACTIVE WHITE" or "RADIOACTIVE YELLOW" labels and being transported on a vessel must be stowed separately from any living accommodations and from any space continuously occupied by any person. Separate stowage is not required from a space occupied by a courier especially authorized to accompany a shipment.

(b) Mail bags may not be stowed in the same hold with radioactive materials.

(c) A package of radioactive materials which is a significant heat source may not be overstowed with any other cargo. If the package is stowed under deck, the hold or compartment in which it is stowed must be ventilated.

(d) Each Fissile Class III shipment must be stowed in a separate hold or compartment and be stowed and handled at least 20 feet from all other packages bearing "RADIOACTIVE YELLOW" labels.

(e) A person may not remain unnecessarily in a hold or compartment or in the immediate vicinity of any package on deck containing radioactive materials. A person may not be exposed to a total of more than 100 millirem in any 7-day period or more than 500 millirem per year whole body dose.

(f) The radiation level in any space or area continuously occupied by passengers, crew, or shipments of animals may not exceed 0.5 millirem per hour.

(g) In the case of a shipment or radioactive materials requiring supplemental operational procedures, the shipper shall furnish the master or person in charge of the vessel a copy of the necessary operational instructions.

(h) The following requirements apply to the stowage of packages of radioactive materials on board a vessel with regard to transport index numbers which are shown on the labels of individual packages:

(1) The sum of the transport indexes of any group of packages may not exceed 50. Each group of packages must be separated by at least 20 feet from all other packages bearing "RADIOACTIVE YELLOW" labels. This separation requirement does not apply to low specific activity or a full load if the consignor has the exclusive use of the entire vessel and the sum of the transport indexes of any group of Fissile Class II packages does not exceed 50.

(2) The sum of the transport indexes of all packages of radioactive materials on board a vessel may not exceed 200.

(3) Packages bearing "RADIOACTIVE YELLOW" labels may not be stowed any closer to persons or undeveloped film than the distances specified in the following table:

Sum of transport indexes of the packages	Minimum distance in feet from living accommodation or regularly occupied working space				Minimum distance[1] in feet from undeveloped films or plates									
					Less than 24-hour voyage	24 up to 48-hour voyage	Over 2 up to 4-day voyage				Over 4 up to 9-day voyage			
	A	B	C	D	A	A	A	B	C	D	A	B	C	D
0 through 0.5	10	10	10	10	3	5	10	10	10	10	15	10	10	10
Over 0.5 through 1.0	10	10	10	10	5	7	15	10	10	10	20	10	10	10
Over 1.0 through 2.0	10	10	10	10	7	12	20	10	10	10	25	15	10	10
Over 2.0 through 5.0	10	10	10	10	12	16	35	10	10	10	40	15	10	10
Over 5.0 through 10.0	15	10	10	10	16	25	40	15	10	10	55	20	10	10
Over 10.0 through 25.0	25	10	10	10	25	35	65	20	10	10	100	30	10	10
Over 25.0 through 50.0	40	15	10	10	35	50	90	30	10	10	145	45	10	10
Over 50.0 through 100	60	20	10	10	50	70	140	45	10	10	210	65	10	10
Over 100 through 200	80	25	10	10	70	100	190	55	10	10	285	85	15	10
Over 200 through 300[2]	110	30	10	10	90	125	230	70	10	10	320	105	15	10
Over 300 through 400[2]	130	35	10	10	100	145	260	80	15	10	360	120	20	10

	Minimum distance[1] in feet from undeveloped films or plates—Con.															
	Over 9 up to 16-day voyage				Over 16 up to 25-day voyage				Over 25 up to 36-day voyage				Over 36 up to 49-day voyage			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
0 through 0.5	20	10	10	10	20	10	10	10	25	15	10	10	30	15	10	10
Over 0.5 through 1.0	25	15	10	10	30	15	10	10	35	20	10	10	45	20	10	10
Over 1.0 through 2.0	35	15	10	10	45	20	10	10	55	25	10	10	65	30	10	10
Over 2.0 through 5.0	60	20	10	10	70	25	10	10	90	30	10	10	100	35	10	10
Over 5.0 through 10.0	85	30	10	10	110	35	10	10	135	40	10	10	155	45	10	10
Over 10.0 through 25.0	140	45	10	10	170	50	10	10	200	60	10	10	230	70	10	10
Over 25.0 through 50.0	195	60	10	10	240	70	10	10	275	85	15	10	315	105	15	10
Over 50.0 through 100	270	85	15	10	320	95	15	10	360	115	20	10	400	145	20	10
Over 100 through 200	325	110	20	10	400	145	20	10	450	180	25	10	520	170	30	10
Over 200 through 300[2]	400	145	25	10	460	175	25	10	560	220	30	10	([3])	240	35	10
Over 300 through 400[2]	450	165	30	10	500	200	30	10	([3])	235	35	10	([3])	270	40	10

[1] Column A applies when no intervening cargo or bulkheads screen the radioactive material from the living accommodation or undeveloped photographic film or plate. Column B applies when the radioactive material is to be surrounded by at least 2 feet of cargo of unit density and at least 1 steel bulkhead between the radioactive material and the living accommodation or undeveloped photographic film or plate. Column C applies when the radioactive material is to be surrounded by at least 6 feet of cargo of unit density and at least 2 steel bulkheads between the radioactive material and the living accommodation or undeveloped photographic film or plate. Column D applies when the radioactive material is to be surrounded by at least 14 feet of cargo of unit density and at least 2 steel bulkheads between the radioactive material and the living accommodation or undeveloped photographic film or plate.

"Cargo of unit density" means cargo stowed at a density of 1 ton per 36 cubic feet (1 ton metric per cubic meter). Where the density of the cargo is less than this, the depth of the cargo specified in this note for columns B, C, and D (i.e. 2 feet, 6 feet, and 14 feet) must be increased in proportion.

"Minimum distance" means the least distance in any direction, whether vertical or horizontal.

[2] The total consignment on board at any time must not exceed transport indexes totaling 200 without prior authorization by the Department.

[3] Not to be carried unless screening by other cargo and bulkheads can be arranged in accordance with columns B, C, or D.

§ 176.710 Care following leakage or sifting of radioactive materials.

(a) In case of fire, collision, or breakage involving any shipment of radioactive materials, other than materials of low specific activity, the package of material must be segregated from unnecessary contact with personnel. In case of obvious leakage, or if the inside container appears to be damaged, the stowage area (hold, deck area, or compartment) containing this cargo must be isolated as much as possible to prevent radioactive material from entering any person's body through contact, inhalation, or ingestion. No person may handle the material or remain in the vicinity unless supervised by a qualified person.

(b) A hold or compartment in which leakage of radioactive materials has occurred may not be used for other cargo until it is decontaminated in accordance with the requirements of § 176.715.

(c) For reporting requirements, see § 171.15 of this subchapter.

§ 176.715 Contamination control.

Each hold, compartment, or deck area used for the transportation of low specific activity radioactive material as a full load must be surveyed with appropriate radiation detection instruments after each use. It may not be used again until the radiation dose rate at any accessible surface is less than 0.5 millirem per hour, and there is no significant removable radioactive surface contamination remaining.

Subpart N—Detailed Requirements for Corrosive Materials

§ 176.800 General stowage requirements.

(a) Each package of a corrosive material being transported on a vessel must be stowed well away from living quarters, foodstuffs, and cargo of an organic nature.

(b) Each package of a corrosive material must be stowed so as to be readily observable except when stowed in a freight container, or a barge, carried aboard a vessel, that is readily observable.

(c) A package of corrosive material may not be stowed over any combustible substance.

(d) Glass carboys containing corrosive material may not be stowed on board any vessel, other than a barge, more than two tiers high unless each carboy is boxed or crated with neck protection expending to the sides of the carboy box. This protective construction must be strong enough to permit stacking one on top of the other.

(e) A corrosive material may not be stowed over a hold or compartment containing cotton unless the deck is of steel and the hatch is fitted with a tight coaming. In addition, the deck must be tight against leakage and the corrosive material may not be stowed over the square of the hatch.

[Amdt. 176-1, 41 FR 16110, Apr. 15, 1976, as amended by Amdt. 176-1A, 41 FR 40691, Sept. 20, 1976]

§ 176.805 On deck stowage.

(a) When break bulk corrosive materials being transported on a vessel are stowed on deck:

(i) Provisions must be made for leakage from any package to drain away from other cargo into an overboard scupper or freeing port. The drainage may not enter an enclosed drainage system other than a direct overboard scupper. If the stowage is not practical, sufficient clean dry sand must be placed under and around the lower tier of packages to absorb any leakage.

(ii) Dunnage must be provided on the deck and arranged so that any leakage will be apparent.

(iii) Any leakage that occurs must be washed down, using liberal quantities of water.

[Amdt. 176-1, 41 FR 16110, Apr. 15, 1976, as amended by Amdt. 176-1A, 41 FR 40687, Sept. 20, 1976]

Subpart O—Detailed Requirements for Other Regulated Materials (ORM)

§ 176.900 Stowage of cotton and fibers generally.

(a) Cotton or fibers being transported on a vessel must be securely baled and bound. Each cotton or fiber bale must be covered with bagging on at least three-fourths of its surface, including both ends. Cut cotton linters may be accepted for transportation by vessel when baled and covered with bagging on the soft sides only if the bale is compressed to a density of at least 32 pounds per cubic foot and it is bound with at least six bands per bale. Any poorly compressed bale or any bale having damaged bindings may not be transported by vessel.

(b) Each wet bale must be stowed separately from any dry bales, preferably in a 'tween deck space and not overstowed. Any bale which is saturated with water may not be transported by vessel.

(c) Bales showing contact with oil or grease may not be accepted for transportation by vessel.

(d) Cotton or fibers must be stowed in a hold or compartment in accordance with the following requirements:

(1) All traces of oil or residue in the hold or compartment must be removed;

(2) A recently painted hold or compartment may not be used unless it is thoroughly dry;

(3) Each ventilation cowl serving the hold or compartment must be fitted with a spark screen;

(4) When a bulkhead of the hold or compartment is common with a boiler room, engine room, coal bunker, or gallery and subjected to heat, a wooden bulkhead must be erected between the bulkhead and any cotton or fibers. This wooden bulkhead must be at least 6 inches from a boiler room bulkhead, and at least 2 inches from an engine room, coal bunker, or galley bulkhead;

(5) Each 'tween deck hatch must be closed with hatch covers, tarpaulins, and dunnage; however, metal hatch covers which are sealed by other means to provide equivalent protection may be used;

(6) Each hold or compartment must be equipped with a carbon dioxide, steam smothering, or overhead water sprinkler system or other approved fixed smothering system. Before loading, the extinguishing system must be examined to ensure that it is in good working condition; and

(7) Each hold or compartment must be clear of all debris and swept broom clean before loading.

(e) Naked lights or any fire likely to produce sparks are not permitted on the vessel, dock area, or any lighters alongside during loading or unloading of cotton or fibers.

(f) Upon completion of stowage, each hatch opening must be completely closed. Where required, tarpaulins must be fitted and secured in place to provide a tight hold. During a period of temporary stoppage of loading or unloading, a hatch may be left open. However, a fire watch, designated by the master or officer-in-charge, must be stationed in the hold or compartment in which the cotton or fibers are stowed.

(g) At least one fire hose must be connected while cotton or fibers are being loaded or unloaded. Each fire pump must be operated before any loading or unloading. Pressure must be maintained on each fire main during the loading and the fire hose laid out ready for immediate use. Portable fire extinguishers must be placed to be readily available. The fire hose, fire pumps and fire extinguishers may be the vessel's equipment or shore equipment.

(h) Smoking is not permitted on a vessel during the loading or unloading of cotton or fibers except at those times and in those places designated by the master or officer-in-charge. "NO SMOKING" signs must be conspicuously posted in appropriate places and the officer in charge of the loading or unloading must see that they are observed.

(i) All cotton or fibers must be segregated in accordance with the requirements applicable to flammable solids (see §176.83(b)) but may not be stowed in the same hold with other Flammable solids.

(j) Cotton or fibers may be stowed in the same hold over bulk sulfur if the sulfur has been trimmed and leveled and the hold is thoroughly cleaned of sulfur dust. A tight floor of two 1-inch crossed clean dunnage boards must be laid on the sulfur before cotton or fibers are stowed. These substances may be stowed alongside each other in the same hold if they are separated by a tight dustproof wood bulkhead.

(k) Cotton or fibers may not be stowed in a 'tween deck hold over bulk sulfur in a lower hold unless the 'tween deck hold has been thoroughly cleaned of all sulfur dust and the 'tween deck hatch covers are in place and covered with tarpaulins and dunnage.

(l) Cotton or fibers may not be stowed in the same hold with any combustible liquid. Cotton or fibers may be stowed in a hold adjacent to any hold above, or any hold below one containing these materials if the holds are separated by a tight steel bulkhead or deck.

[Amdt. 176-1, 41 FR 16110, Apr. 15, 1976, as amended by Amdt. 176-1A, 41 FR 40691, Sept. 20, 1976]

§ 176.901 Stowage of cotton or fibers with rosin or pitch.

Cotton or fibers being transported on a vessel may not be stowed in the same hold or compartment with rosin or pitch being transported on the same vessel. When separate stowage is not practicable, the cotton or fibers may be stowed in the same hold or compartment with rosin or pitch if they are separated by clean dunnage or a cargo of a non-combustible nature. When stowage within the same hold or compartment involves large amounts of cotton or fibers and rosin or pitch, the rosin or pitch must be floored off with at least two layers of 1-inch dunnaging and the cotton or fibers stowed above.

§ 176.902 Stowage of cotton or fibers with vegetable, animal, or rosin oil.

(a) When practicable, fish oil, whale oil, vegetable oil, animal oil, or rosin oil being transported on a vessel may not be stowed in the same hold or compartment with any cotton or fibers being transported on the same vessel. When separate stowage is not practicable, the cotton and fibers must be stowed so that there is no contact with any of those oils. If cotton or other fibers are transported over any of those oils, a tight 2-inch floor of dunnage boards must be laid over the oils before the cotton or fibers are placed on top.

(b) Cotton or fibers may not be stowed in a hold below one in which any of those oils are stowed unless the 'tween deck hatch is fitted with a tight coaming and the deck is of steel and made tight against leakage.

§ 176.903 Stowage of cotton fibers with coal.

Cotton or fibers being transported on a vessel may not be stowed in the same hold with coal. They may be stowed in adjacent holds if the holds are separated by a tight steel bulkhead and the cotton or fibers are dunnaged at least 2 inches off the bulkhead. Cotton or fibers may be stowed in a hold above or below one in which coal is stowed if there is a tight steel intervening deck and all hatch covers are in place and covered with tarpaulins.

§ 176.904 Cotton or fibers with synthetic nitrate of soda.

Cotton or fibers being transported on a vessel may not be stowed in the same hold with synthetic nitrate of soda. They may be stowed in adjacent holds if the holds are separated by a tight steel bulkhead. Cotton or fibers may be stowed in a hold above or below one in which synthetic nitrate of soda is stowed if there is a tight steel intervening deck and all hatch covers are in place and covered with tarpaulins.

§ 176.905 Motor vehicles or mechanical equipment powered by internal combustion engines.

(a) A motor vehicle or any mechanized equipment powered by an internal combustion engine is subject to the requirements of this subchapter when carried as cargo on a vessel if the engine or fuel tank contains any fuel or if either battery cable is connected. The requirements of this subchapter do not apply if the fuel tank is empty, the engine has been run until it has stalled from lack of fuel, both battery cables are disconnected, and no hazardous material is stowed in the vehicle.

(b) Before being loaded on a vessel, each vehicle must be inspected for leaks. A vehicle showing any signs of leakage may not be transported.

(c) Each vehicle stowed in a hold or compartment must have the battery cables disconnected and secured away from the battery terminals, unless it is stowed in a hold or compartment designated by the administration of the country in which the vessel is registered to be specially suited for vehicles. (See 46 CFR 70.10-44 and 90.10-38 for U.S. vessels.)

(d) The fuel tank of a vehicle being transported as cargo on a vessel may not be more than one-fourth full.

(e) All equipment used for handling vehicles must be designed so that the fuel tank and fuel system are protected from stress that might cause rupture or other damage incident to handling.

(f) Whenever possible each vehicle must be stowed to allow for its inspection during transit.

(g) Two hand-held, portable, dry chemical fire extinguishers of at least 10 pounds capacity each must be separately located in an accessible location in each hold or compartment in which any motor vehicle is stowed.

(h) "NO SMOKING" signs must be conspicuously posted at each access opening to the hold or compartment.

(i) The following additional requirements apply to the stowage of any vehicles containing a flammable compressed gas or flammable liquid:

(1) Each portable electrical light and hand flashlight used in the stowage area must be an approved, explosion-proof type. All electrical connections for any portable light must be made to outlets outside the space in which any vehicle is stowed;

(2) No hazardous material other than motor vehicles or mechanized equipment may be stowed in the same hold or compartment with any vehicle having a flammable liquid or flammable compressed gas in its fuel tank;

(3) Each hold or compartment must be ventilated and fitted with an overhead water sprinkler system or fixed fire extinguishing system;

(4) Each hold or compartment must be equipped with a smoke or fire detection system; and

(5) All electrical equipment in the hold or compartment other than fixed explosion-proof lighting must be disconnected from its power source at a location outside the hold or compartment during the handling and transportation of any vehicle. Where the disconnecting means is a switch or circuit breaker, it must be locked in the open position until all vehicles have been discharged.

(j) Motor vehicles may be refueled when necessary in the hold of a vessel in accordance with § 176.78.

(k) Motor vehicles with fuel in their tanks may not be stowed in closed (non-ventilated) containers.

[Amdt. 176-1, 41 FR 16110, Apr. 15, 1976. Redesignated and amended by Amdt. 176-1A, 41 FR 40690, Sept. 20, 1976]

PART 177—CARRIAGE BY PUBLIC HIGHWAY

Subpart A—General Information and Regulations

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Subpart E—Regulations Applying to Hazardous Materials on Motor Vehicles Carrying Passengers for Hire

177.870 Regulations for passenger carrying vehicles.

AUTHORITY: 62 Stat. 738, 74 Stat. 808; 18 U.S.C. 834, 49 U.S.C. 1657, 49 CFR 1.53(g) unless otherwise noted.

AUTHORITY: 49 U.S.C. 1803, 1804, 1808; 49 CFR 1.53(e), unless otherwise noted.

EFFECTIVE DATE NOTE: The above authority citation becomes effective Jan. 3, 1977.

SOURCE: 29 FR 18795, Dec. 29, 1964, unless otherwise noted. Redesignated at 32 FR 5606, Apr. 5, 1967.

EFFECTIVE DATE NOTE: (1) Except as provided in paragraphs (2) through (4), compliance with the provisions of this amendment is not mandatory until January 1, 1977.

(2) Compliance with the provisions of this amendment pertaining to the information required to appear on a shipping paper or the format of a shipping paper, is not mandatory until July 1, 1977. (See note to 49 CFR 172.204(a) regarding delayed compliance with that section's required use of a newly worded shipper's certification.)

(3) A package filled, marked or labeled before July 1, 1976, in accordance with regulations in effect on June 30, 1976, may be offered for transportation and transported, even though it does not comply with the package, marking and labeling provisions of this amendment, if it (i) is offered for transportation before July 1, 1977, and (ii) complies with the package, marking and labeling regulations in effect on June 30, 1976.

(4) Compliance with the provisions of this amendment appearing in Subpart F of Part 172 (Placarding) is not mandatory until July 1, 1977.

(5) Under the authority of any of the preceding four numbered paragraphs:

(i) When a provision of this amendment is not complied with, the comparable provision (if any) of the regulations in effect on June 30, 1976, shall be complied with; however,

(ii) The hazard class and description of a material indicated on a shipping paper must be the same as the hazard class indicated on the label (if any) displayed, and the description marked, on the package containing that material.

(6) For purposes of the application of Part 174 (except § 174.25) to rail cars from July 1, 1976, to July 1, 1977, placards specified in this amendment, and placards specified under regulations in effect on June 30, 1976, may be treated as equivalent according to the following table:

Hazard class (material)	Placard adopted under docket No. HM-103/112	Equivalent placard required by pt. 174 cn June 30, 1976
Explosives A	EXPLOSIVES A	EXPLOSIVES.
Explosives B	EXPLOSIVES B	DANGEROUS.
Explosives C	FLAMMABLE	None.
Flammable liquid	FLAMMABLE	DANGEROUS.
Flammable solid	FLAMMABLE SOLID	DANGEROUS.
Oxidizer	OXIDIZER	DANGEROUS.
Corrosive liquid	CORROSIVE	DANGEROUS.
Nonflammable gas	NONFLAMMABLE GAS	DANGEROUS.
Flammable gas	FLAMMABLE GAS	DANGEROUS.
Poison A	POISON GAS	POISON GAS.
Poison B	POISON	DANGEROUS.
Radioactive material	RADIOACTIVE	DANGEROUS—RADIOACTIVE MATERIAL.
Organic peroxide	ORGANIC PEROXIDE	DANGEROUS.
(Chlorine)	CHLORINE	DANGEROUS.
(Oxygen, pressurized liquid)	OXYGEN	DANGEROUS.

(7) This amendment does, not terminate any outstanding exemption issued under 49 CFR, Part 107 or its predecessor authorities. Any exemption from a regulatory requirement in effect on June 30, 1976, while is modified or replaced by this amendment, continues in effect:

(i) By its own terms, to the extent that continued compliance with that regulatory requirement is required or authorized by this amendment; and

(ii) For any provision of this amendment which is equivalent to that regulatory requirement.

Subpart A—General Information and Regulations

§ 177.800 Purpose of regulations in Parts 170–189 of this chapter.

(a) To promote the uniform enforcement of law and to minimize the dangers to life and property incident to the transportation of hazardous materials, by private, common and contract carriers, by motor vehicle engaged in interstate or foreign commerce, the regulations in Parts 170–189 of this subchapter are prescribed to define these articles for motor vehicle transportation purposes, and to state the precautions that must be observed by the carrier in handling them while in transit. It is the duty of each such carrier to make the prescribed regulations effective and to thoroughly instruct employees in relation thereto.

[29 FR 18795, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 177-5, 34 FR 7162, May 1, 1969; Amdt. 177-12, 35 FR 9284, June 13, 1970; Amdt. 177-35, 41 FR 16130, Apr. 15, 1976]

§ 177.801 Scope of regulations in Parts 170–189 of this chapter.

(a) Hazardous materials except such as may not be accepted and transported under Parts 170–189 of this subchapter, may be accepted and transported by private, common and contract carriers by motor vehicle engaged in interstate or foreign commerce, provided they are in proper condition for transportation and are certified as being in compliance with Parts 170–189 of this subchapter, and provided the method of manufacture, packing, and storage, so far as they affect safety in transportation, are open to inspection by a duly authorized representative of the initial carrier or of the Bureau of Explosives. Shipments of explosives or other dangerous articles not in proper condition for transportation, or loaded or stayed as required, or certified as to proper packing, marking and description as required in Parts 170–189 of this subchapter, must not be accepted for transportation or transported.

[29 FR 18795, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 177-5, 34 FR 7162, May 1, 1969; Amdt. 177-12, 35 FR 9284, June 13, 1970; Amdt. 177-35, 41 FR 16130, Apr. 15, 1976]

§ 177.802 Application of regulations in Parts 170–189 of this chapter.

(a) Parts 170–189 of this subchapter apply to all private, common and contract carriers by motor vehicle transporting hazardous materials as defined by Department of Transportation "Regulations for Transportation of Hazardous Materials by Land and Water in Rail Freight, Express and Baggage Services and by Motor Vehicle (Highway) and Water". When shipments are accepted by motor vehicle for further transportation by rail express (see also paragraph (c) of this section), rail baggage (see also paragraph (d) of this section), rail freight or by water on board vessel, they must, in addition to Parts 170–189 of this subchapter, comply with the applicable regulations for the service by which they are to be transported.

[29 FR 18795, Dec. 29, 1964. Redesignated Amdt. 177-24, 38 FR 5314, Feb. 27, 1973; Amdt. 177-35, 41 FR 16130, Apr. 15, 1976]

§ 177.803 Export and import shipments by domestic carriers by motor vehicles.

See § 171.12 of this subchapter.

[Amdt. 177-35, 41 FR 16130, Apr. 15, 1976]

§ 177.804 [Reserved]

§ 177.805 Canadian shipments and packagings.

(a) Canadian shipments and packagings may be carried under conditions specified in § 173.8 of this subchapter.

[Amdt. 177-7, 34 FR 17524, Oct. 30, 1969, as amended by Amdt. 177-35, 41 FR 16130, Apr. 15, 1976]

§ 177.806 U.S. Government material.

(a) Shipments of hazardous materials offered by or consigned to the Department of Defense (DOD) of the U.S. Government must be packaged, including limitations of weight, in accordance with the regulations in this subchapter or in containers of equal or greater strength and efficiency as required by DOD regulations.

(1) Hazardous materials sold by the DOD in packagings that are not marked in accordance with the requirements of this subchapter may be shipped from DOD installations if the DOD certifies in writing that the packagings are equal to or greater in strength and efficiency than the packaging prescribed in this subchapter. The shipper shall obtain such a certification in duplicate for each shipment. He shall give one copy to the originating carrier and retain the other for no less than 1 year.

(b) Shipments of radioactive materials, made by or under the direction or supervision of the U.S. Atomic Energy Commission or the Department of Defense, and which are escorted by personnel specially designated by or under the authority of those agencies, for the purpose of national security, are exempt from the regulations in Parts 170–189 of this subchapter.

[29 FR 18795, Dec. 29, 1964. Redesignated, 32 FR 5606, Apr. 5, 1967 and amended by Order 74, 32 FR 5276, Mar. 29, 1967; Amdt. 177-25, 38 FR 7561, Mar. 23, 1973; Amdt. 177-35, 41 FR 16130, Apr. 15, 1976]

§ 177.807 Reporting hazardous materials incidents.

Each carrier shall report incidents involving hazardous materials to the Department as required by §§ 171.15 and 171.16 of this chapter.

[Amdt. 177-14, 35 FR 16838, Oct. 31, 1970; as amended by Amdt. 177-35, 41 FR 16130, Apr. 15, 1976]

§ 177.808 Connecting carrier shipments.

(a) Shipments of hazardous materials offered by connecting transportation lines must comply with Parts 170-189 of this subchapter.

[29 FR 18795, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 177-35, 41 FR 16130, Apr. 15, 1976]

§ 177.809 Carrier's material and supplies.

(a) The regulations in Parts 170-189 of this subchapter apply to all shipments of hazardous materials, including carrier's material and supplies.

[29 FR 18795, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 177-35, 41 FR 16130, Apr. 15, 1976]

§ 177.810 Vehicular tunnels.

(a) Nothing contained in Parts 170-189 of this subchapter shall be so construed as to nullify or supersede regulations established and published under authority of State statute or municipal ordinance regarding the kind, character, or quantity of any hazardous material permitted by such regulations to be transported through any urban vehicular tunnel used for mass transportation.

[29 FR 18795, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 177-35, 41 FR 16130, Apr. 15, 1976]

§ 177.811 Astray shipments.

(a) Any carrier in possession of an astray shipment of hazardous materials (other than explosives) shall forward it promptly to its destination, if known, after inspection has shown the package to be in proper condition for transportation.

(b) If the package of hazardous materials is not labeled and the exact classification of the contents is not determinable, the carrier shall apply a FLAMMABLE LIQUID label.

[Amdt. 177-35, 41 FR 16130, Apr. 15, 1976, as amended by Amdt. 177-35A, 41 FR 40691 Sept. 20, 1976]

§ 177.812 Containers required.

(a) Containers required for hazardous materials are prescribed in Part 173 of this subchapter, Regulations Applying to Shippers.

[29 FR 18795, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 177-35, 41 FR 16130, Apr. 15, 1976]

§ 177.813 Inefficient containers.

(a) The results of experience gained by examination of broken or leaking containers must be recorded by the Bureau of Explosives to the end that further use of any particular kind of container shown by experience to be inefficient, may be prohibited by the Department.

§ 177.814 Retention of manufacturer's certificate and retest reports.

(a) Each motor carrier who uses a cargo tank vehicle shall have in his files a certificate or manufacturer's data report signed by a responsible official of the manufacturer or fabricator of the cargo tank, or a competent testing agency, certifying that the cargo tank identified in the certificate was manufactured and tested in accordance with the requirements contained in the specification under which the cargo tank was constructed. The certificate and any other data furnished as required by the specification must be retained at the principal office of the carrier during the time that the cargo tank is used by the carrier and for one year thereafter.

(1) Except for specifications MC 330 and MC 331 cargo tanks, a motor carrier may himself perform the tests and inspections to determine whether the tank meets the requirements of the specification. If the motor carrier performs the tests and inspections and determines that the tank conforms to the specification, he may use the tank if he retains the test data, in place of a certificate, in his files at his principal office for as long as he uses the tank and one year thereafter.

(2) A motor carrier using a specification MC 330 cargo tank for which such carrier is unable to obtain the manufacturer's data report required by the specification may copy the information contained on the cargo tank's identification plate and ASME Code plate and retain such information as required by this section.

(3) Each motor carrier who uses a specification cargo tank which he does not own and has not tested or inspected shall obtain a copy of the manufacturer's certificate or manufacturer's data report and retain it in his files at his principal office during the time he uses the tank and for one year thereafter. A motor carrier using a specification MC 330 cargo tank which he does not own may copy the information contained on the cargo tank's identification plate and ASME Code plate if the manufacturer's data report is not available from the owner of the tank.

(b) Upon a written request to, and with the approval of, the Director, Regional Motor Carrier Safety Office, for the region in which a motor carrier has his principal place of business, a motor carrier may retain the certificate and other data specified in paragraph (a) of this section at a regional or terminal office. The address and jurisdictions of the Directors of Regional Motor Carrier Safety Offices are shown in § 390.40 of Chapter III of this title.

(c) *Withdrawal of certification.* See § 177.824(i) of this subchapter.

(d) A copy of retest and inspection reports required by §§ 173.33 and 177.824 of this subchapter and all records of repairs to each cargo tank vessel must be retained in the same file with the manufacturer's certificate or manufacturer's data report for that tank as specified in paragraph (a) of this section. This provision does not apply to a motor carrier leasing a cargo tank for less than 30 days if the lessor has the records required by this section in his files.

[Amdt. 177-31, 39 FR 41742, Dec. 2, 1974, as amended by Amdt. 177-36, Apr. 28, 1976; Amdt. 177-37, 41 FR 40691, Sept. 20, 1976]

§ 177.815 Lost or destroyed labels.

Each carrier shall maintain an adequate supply of the labels specified in Subpart E of Part 172 of this subchapter to replace those that become lost or destroyed. The carrier shall replace each lost or destroyed label based on the information on the shipping papers.

[Amdt. 177-35, 41 FR 16130, Apr. 15, 1976]

§ 177.816 [Reserved]

§ 177.817 Shipping papers.

(a) *General requirements.* A carrier may not transport a hazardous material unless it is accompanied by a shipping paper that is prepared in accordance with §§ 172.201, 172.202, and 172.203 of this subchapter.

(b) *Shipper certification.* An initial carrier may not accept hazardous material offered for transportation unless the shipping paper describing the material includes a shipper's certification which meets the requirements in § 172.204 of this subchapter. The certification is not required for shipments to be transported entirely by private carriage and for bulk shipments to be transported in a cargo tank supplied by the carrier.

(c) *Requirements when interlining with carriers by rail.* A motor carrier shall mark on the shipping paper required by this section, if it offers or delivers a freight container or transport vehicle to a rail carrier for further transportation;

(1) A description of the freight container or transport vehicle; and

(2) The kind of placard affixed to the freight container or transport vehicle.

(d) This section does not apply to materials classed as an ORM-A, B, C, or D.

(e) *Shipping paper accessibility—accident or inspection.* A driver of a motor vehicle containing hazardous material, and each carrier using such a vehicle, shall ensure that the shipping paper required by this section is readily available to, and recognizable by, authorities in the event of accident or inspection. Specifically, the driver and the carrier shall—

(1) Clearly distinguish the shipping paper, if it is carried with other shipping papers or other papers of any kind, by either distinctively tabbing it or by having it appear first; and

(2) Store the shipping paper as follows:

(i) When the driver is at the vehicle's controls, the shipping paper shall be: (A) Within his immediate reach while he is restrained by the lap belt; and (B) either readily visible to a person entering the driver's compartment or in a holder which is mounted to the inside of the door on the driver's side of the vehicle.

(ii) When the driver is not at the vehicle's controls, the shipping paper shall be: (A) In a holder which is mounted to the inside of the door on the driver's side of the vehicle; or (B) on the driver's seat in the vehicle.

[Amdt. 177-35, 41 FR 16130, Apr. 15, 1976, as amended by Amdt. 177-35A, 41 FR 40691, Sept. 20, 1976]

§ 177.821 Hazardous materials forbidden or limited for transportation.

(a) *Nitroglycerin, desensitized liquid nitroglycerin or diethylene glycol dinitrate forbidden to common carriers.* Liquid nitroglycerin, desensitized liquid nitroglycerin or diethylene glycol dinitrate, except as defined in § 173.53(e) of this chapter, may not be accepted for transportation or be transported by any common carrier by motor vehicle.

(b) *Rejection of leaking containers of liquid nitroglycerin, desensitized liquid nitroglycerin or diethylene glycol dinitrate.* Any individual container used for the transportation of liquid nitroglycerin, desensitized liquid nitroglycerin or diethylene glycol dinitrate, or any boot used therewith, found in such a condition as to permit leakage, shall be discarded and shall not thereafter be repaired for further use.

(c) *Hazardous materials forbidden or limited for transportation.* No motor carrier may accept for transportation or transport any hazardous material listed in Commodity List (§ 172.5 of this chapter), as "forbidden" for transportation by all motor carriers; nor, if there be any prohibition or limitation regarding the transportation of any particular hazardous material by a particular kind of motor carrier, may any such article be accepted for transportation or be transported by that kind of carrier, except as indicated in this part. (See § 177.870.)

(d) *Leaking or damaged packages of high explosive must not be accepted for transportation or transported.* Should any package of high explosive when offered for shipment show excessive dampness or be moldy or show outward signs of any oily stain or other indication that absorption of the liquid part of the explosive is not perfect, or that the amount of the liquid part is greater than the absorbent can carry, the package must be refused in every instance. The shipper must substantiate any claim that a stain is due to contact with material other than the liquid explosive ingredient of the explosive. In case of doubt the package must be rejected.

(e) *Condemned or leaking dynamite; repacking.* Condemned or leaking dynamite must not be repacked and offered for shipment unless the repacking is done by a competent person in the presence of or with the written consent of an inspector, or with the written authority of the chief inspector, of the Bureau of Explosives.

(f) Smokeless powder for small arms in quantities not exceeding 100 pounds net weight transported in one car or motor vehicle may be classed as a flammable solid when approved for this classification by the Bureau of Explosives. Maximum quantity in any inside packaging must not exceed 8 pounds and inside packagings must be arranged and protected to prevent simultaneous ignition of the contents. The complete package must be a type approved by the Bureau of Explosives. Each outside package must bear a flammable solid label.

[29 FR 18795, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 177-24, 38 FR 5315, Feb. 27, 1973; Amdt. 177-35, 41 FR 16130, Apr. 15, 1976]

§ 177.822 Acceptable articles.

(a) Any motor carrier may accept for transportation or transport any acceptable hazardous materials listed in the Commodity List, § 172.5 of this subchapter: *Provided, however,* That no provision of this section shall be so construed as to permit the acceptance or transportation of liquid nitroglycerin, desensitized liquid nitroglycerin or diethylene glycol dinitrate, other than as defined in § 173.53(e) of this subchapter, by any common carrier.

(b) *Liquid nitroglycerin, desensitized liquid nitroglycerin or diethylene glycol dinitrate.* Liquid nitroglycerin, desensitized liquid nitroglycerin or diethylene glycol dinitrate, other than as defined in § 173.53(e) of this subchapter, may be transported only by motor carriers other than common carriers in containers complying with specification MC200 (§ 178.315 of this subchapter). No form of trailer may be attached.

[29 FR 18795, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 177-35, 41 FR 16130, Apr. 15, 1976]

§ 177.823 Marking and placarding motor vehicles.

(a) A carrier may not move a transport vehicle containing a hazardous material unless the vehicle is marked and placarded in accordance with Part 172 of this subchapter, or unless, in an emergency—

(1) The vehicle is escorted by a representative of a state or local government;

(2) The carrier has permission from the Department; or—

(3) Movement of the transport vehicle is necessary to protect life or property.

[Amdt. 177-35, 41 FR 16130, Apr. 15, 1976]

§ 177.824 Retesting and inspection of cargo tanks.

(a) *General.* In accordance with § 173.33 of this subchapter (cargo tank use authorization) every cargo tank and **every compartment of a cargo tank authorized as a qualified container, except those cargo tanks having a capacity of 3,000 gallons or less used exclusively for the transportation of flammable liquids, must fulfill the applicable requirements as set forth in this section.**

(1) Each cargo tank, except specifications MC 330 and MC 331 cargo tanks, must be in compliance with the testing requirements prescribed in paragraphs (a), (b), (c), and (d) of this section. Each cargo tank must be in accordance with the marking requirement of paragraph (h) of this section.

(2) Every cargo tank whether constructed in accordance with DOT specifications or being operated as a novel tank under special permit authorization shall not continue in service unless it has successfully fulfilled the testing requirements as set forth in this section.

(b) *Visual inspection requirements.* Every cargo tank shall receive an external visual inspection at least once in every 2-year period. The first such inspection shall be required at the time the next hydrostatic retest is due or prior to January 31, 1969, whichever comes first. This inspection shall be made by a responsible and experienced inspector who shall record the condition of the items set forth below. The inspection record shall be approved and signed by an authorized representative of the owner or operator. A written report of each inspection shall be retained in carrier's or owner's files for a period of 2 years after the date of inspection. Where insulation precludes external visual inspection, the cargo tank shall receive a visual internal inspection for corroded areas, defects in welds or tank sheets. Where visual inspection is precluded by both internal coating and external insulation or when the cargo tank is not equipped with a manhole, the tank shall be hydrostatically tested at 5-year intervals except as otherwise provided in paragraph (c) of this section. The tank shall not be placed in or returned to service if evidence of any unsafe condition is discovered and until such condition has been corrected. Inspection shall consist of the following items:

(1) The tank shall be inspected for: Corroded areas, bad dents, and defects in welds; defects in piping, valves, and gaskets; and other conditions, including leakage, which indicate weakness in the tank that might render it unsafe for transportation service.

(2) Devices for tightening manhole covers must be operative and leakage at manhole covers and gaskets must be corrected.

(3) Spring-loaded safety-relief valves rated in excess of 7 p.s.i.g. shall be removed from the cargo tank and tested.

(4) All emergency devices and valves must be free from corrosion, distortion, and any damage which will prevent their normal operation.

(5) Missing or loose bolts or nuts on any flanged connection or blank flange must be replaced or tightened.

(6) Required markings on the tank shall be legible.

(7) The entire vehicle shall be inspected for and comply with the Motor Carrier Safety Regulations, Part 393, Chapter III, of this title.

(c) *Hydrostatic or pneumatic testing requirements.* In addition to the visual inspection requirements as contained in paragraph (b) of this section, hydrostatic or pneumatic testing of cargo tanks (or compartments) is required to be conducted in accordance with the provisions contained in paragraph (d) of this sec-

tion to qualify as an authorized container if:

(1) The cargo tank has been out of service (transporting dangerous articles) 1 year or more, or

(2) The cargo tank has been involved in an accident in which it may have been dented, torn, or otherwise damaged so as to affect its product retention integrity, or

(3) The shell of the cargo tank as originally manufactured has been modified, or

(4) The cargo tank is operating under special permit authorization. Such tanks shall be hydrostatically tested once every calendar year unless otherwise provided for in the special permit, and shall successfully fulfill the requirements set forth in paragraph (d) of this section. No two such required tests shall be closer than 6 months.

(d) *Hydrostatic or pneumatic testing procedure.* The requalification as an authorized container of cargo tanks (or compartments) required to be hydrostatically or pneumatically tested in accordance with paragraph (a) of this section shall be based on successfully meeting the requirements of this paragraph.

(1) *General.* (i) If a cargo tank is compartmented each compartment shall be similarly tested with the adjacent compartment empty and at atmospheric pressure.

(ii) All closures shall be in place while the test is being made. During the test all relief devices shall be clamped, plugged or otherwise rendered inoperative. Relief devices shall be returned to their operative condition immediately after the tests are completed.

(iii) The tank or compartment must hold the prescribed pressure for at least 10 minutes. All tank valves, piping, and other accessories in communication with the lading must be pressure tested and proven tight at the tank design pressure.

(iv) All pressure bearing portions of the heating system of a cargo tank (or compartment) employing such media as steam or hot water for heating the lading shall be tested under hydrostatic pressure and proven to be tight at 14.06 kg./sq. cm (200 psig). Systems employing flues for heating the lading shall be suitably tested to insure against product leakage into the flues or into the atmosphere.

(2) *Hydrostatic test.* For Hydrostatic testing, the tank (including its domes, if any) must be completely filled with water or a liquid having a viscosity similar to water. Pressure must be gauged at the top of the tank applied in accordance with Table I following paragraph (d)(3) of this section.

(3) *Pneumatic test.* Pneumatic pressure must be applied in accordance with Table I of this paragraph. During the pneumatic test the entire surface of all joints under pressure must be coated with a solution of soap and water, heavy oil, or other materials suitable for the purpose of foaming or bubbling to indicate the presence of leaks. Other methods equally sensitive for determining leaks may be used.

TABLE I

Container type:	Test pressure *KG/SQ. CM.*
MC 300, 301, 302, 303, 305, 306	0.2109 (3 psig)
MC 304, 307	1.76 [1] (25 [1] psig)
MC 310, 311, 312	0.2109 [1] (3 [1] psig)

[1] Or 1½ times design pressure whichever is greater.

(4) *Required results.* A cargo tank (or compartment) required to be hydrostatically or pneumatically tested in accordance with paragraph (a) of this section may not be returned to service as a specification cargo tank unless it has successfully retained the applicable test pressure (see Table I in pargaraph (d)(3) of this section) without leakage, undue distortion, excessive permanent expansion, or evidence of impending failure. The suitability of any repairs shall be determined by the same method of test.

(i) Cargo tanks (or compartments) with heating systems shall successfully withstand the hydrostatic pressure and examination specified in paragraph (d)(1)(iv) of this section.

(e) *Compressed gas cargo tanks, specifications MC 330 and MC 331.* Each cargo tank constructed in compliance with specification MC 330 or MC 331 (§ 178.337 of this subchapter) must be inspected and tested in accordance with § 173.33 of this subchapter.

(f) *Reporting requirements.* Each motor carrier shall file with the Director, Bureau of Motor Carrier Safety, Federal Highway Administration, Department of Transportation, Washington, D.C. 20590, a written listing of all MC 330 and MC 331 cargo tanks he has in service. Each motor carrier, upon placing in service or withdrawing from service any MC 330 and MC 331 cargo tank (other than a cargo tank used in interchange service which is reported upon by another carrier), shall file a supplemental report with the Bureau.

(1) The initial listing and each subsequent report must include the following information:

(i) The carrier's name, address, and telephone number.

(ii) One of the following statements: "Cargo tank placed in service" or "Cargo tank withdrawn from service," as appropriate, followed by the date of placement or removal;

(iii) The carrier's equipment number, manufacturer's name, manufacturer's serial number, specification MC 330 or MC 331, and "QT" (quenched and tempered) or "NQT" (not quenched and tempered).

(2) A copy of each report required by this paragraph must be retained by the carrier at its principal place of business during the period the tank is in the carrier's service and for 1 year thereafter. However, upon a written request to, and with the approval of, the Director, Regional Motor Carrier Safety Office, for the region in which a motor carrier has his principal place of business, the carrier may maintain the reports at a regional or terminal office.

(g) *Special testing required by the Department.* Upon the showing of probable cause of the necessity for retest, the Department may require any cargo tank to be retested at any time in accordance with the requirements prescribed for its periodic retest.

(h) *Test date markings.* The month and year of the last test must be durably and legibly marked on the tank in letters not less than 1¼ inches high, on the right side near the front. These markings must be near the metal certification plate, except on any tank having the plate other than on the right side near the front.

(i) *Withdrawal of certification.* If, as the result of an accident or for any other reason a cargo tank no longer meets the applicable specification, the carrier shall remove the metal certification plate or make it illegible (see § 173.24(c)(1)(v) of this subchapter). The details of the conditions necessitating withdrawal of the certification must be recorded and signed on the written certificate for that cargo tank. The vehicle owner shall retain the certificate for at least 1 year after withdrawal of the certification.

[29 FR 18795, Dec. 29, 1964. Redesignation, 32 FR 5606, Apr. 5, 1967 and amended by Order 73, 32 FR 3458, Mar. 2, 1967; Amdt. 177-1, 33 FR 2390, Jan. 31, 1968; Amdt. 177-2, 33 FR 7495, May 21, 1968; 34 FR 18248, Nov. 14, 1969; Amdt. 177-17, 36 FR 18469, Sept. 15, 1971; Amdt. 177-27, 38 FR 23792, Sept. 4, 1973; Amdt. 177-28, 38 FR 27597, Oct. 5, 1973; Amdt. 177-31, 39 FR 41742, Dec. 2, 1974; Amdt. 177-33, 40 FR 24904, June 11, 1975; Amdt. 177-35, 41 FR 16130, Apr. 15, 1976; Amdt. 177-37, 41 FR 40476, Sept. 20, 1976]

Subpart B—Loading and Unloading

NOTE: **For prohibited loading and storage of hazardous materials, see § 177.848.**

§ 177.834 General requirements.

(a) *Packages secured in a vehicle.* Any tank, barrel, drum, cylinder, or other packaging, not permanently attached to a motor vehicle, which contains any flammable liquid, compressed gas, corrosive material, poisonous material, or radioactive material must be secured against movement within the vehicle on which it is being transported, under conditions normally incident to transportation.

(b) *No hazardous materials on pole trailers.* No hazardous materials may be loaded into or on or transported in or on any pole trailer.

(c) *No smoking while loading or unloading.* Smoking on or about any motor vehicle while loading or unloading any explosive, flammable liquid, flammable solid, oxidizing material, or flammable compressed gas is forbidden.

(d) *Keep fire away, loading and unloading.* Extreme care shall be taken in the loading or unloading of any explosive, flammable liquid, flammable solid, oxidizing material, or flammable compressed gas into or from any motor ve-

hicle to keep fire away and to prevent persons in the vicinity from smoking, lighting matches, or carrying any flame or lighted cigar, pipe, or cigarette.

(e) *Handbrake set while loading and unloading.* No hazardous material shall be loaded into or on, or unloaded from, any motor vehicle unless the handbrake be securely set and all other reasonable precautions be taken to prevent motion of the motor vehicle during such loading or unloading process.

(f) *Use of tools, loading and unloading.* No tools which are likely to damage the effectiveness of the closure of any package or other container, or likely adversely to affect such package or container, shall be used for the loading or unloading of any explosive or other dangerous article.

(g) *Prevent relative motion between containers.* Containers of explosives, flammable liquids, flammable solids, oxidizing materials, corrosive materials, compressed gases, and poisonous liquids or gases, must be so braced as to prevent motion thereof relative to the vehicle while in transit. Containers having valves or other fittings must be so loaded that there will be the minimum likelihood of damage thereto during transportation.

(h) *Precautions concerning containers in transit; fueling road units.* Reasonable care should be taken to prevent undue rise in temperature of containers and their contents during transit. There must be no tampering with such container or the contents thereof nor any discharge of the contents of any container between point of origin and point of billed destination. Discharge of contents of any container, other than a cargo tank, must not be made prior to removal from the motor vehicle. Nothing contained in this paragraph shall be so construed as to prohibit the fueling of machinery or vehicles used in road construction or maintenance.

(i) *Attendance requirements.* (1) *Loading.* A cargo tank must be attended by a qualified person at all times when it is being loaded. The person who is responsible for loading the cargo tank is also responsible for ensuring that it is so attended.

(2) *Unloading.* A motor carrier who transports hazardous materials by a cargo tank must ensure that the cargo tank is attended by a qualified person at all times during unloading. However, the carrier's obligation to ensure attendance during unloading ceases when—

(i) The carrier's obligation for transporting the materials is fulfilled;

(ii) The cargo tank has been placed upon the consignee's premises; and

(iii) The motive power has been removed from the cargo tank and removed from the premises.

(3) A person "attends" the loading or unloading of a cargo tank if, throughout the process, he is awake, has an unobstructed view of the cargo tank, and is within 7.62 meters (25 feet) of the cargo tank.

(4) A person is "qualified" if he has been made aware of the nature of the hazardous material which is to be loaded or unloaded, he has been instructed on the procedures to be followed in emergencies, he is authorized to move the cargo tank, and he has the means to do so.

(5) A delivery hose, when attached to the cargo tank, is considered a part of the vehicle.

(j) *Prohibited loading combinations.* In any single driven motor vehicle or in any single unit of a combination of motor vehicles, hazardous materials shall not be loaded together if prohibited by loading and storage chart, § 177.848. This section shall not be so construed as to forbid the carrying of materials essential to safe operation of motor vehicles. (See Motor Carrier Safety Regulations, Part 393 of the subchapter.)

(k) *Access to mixed ladings.* Flammable solids, oxidizing materials, or corrosive liquids, when transported on a motor vehicle with other lading not otherwise forbidden, shall be so loaded as to provide ready access thereto for shifting or removal.

(l) *Use of cargo heaters when transporting certain hazardous material.* Transportation includes loading, carrying, and unloading.

(1) *When transporting explosives.* A motor vehicle equipped with a cargo heater of any type may transport explosives only if the cargo heater is rendered inoperable by: (i) Draining or removing the cargo heater fuel tank; and (ii) disconnecting the heater's power source.

(2) *When transporting certain flammable material*—(i) *Use of combustion cargo heaters.* A motor vehicle equipped with a combustion cargo heater may be used to transport flammable liquid or flammable gas only if each of the following requirements are met—

(A) It is a catalytic heater.

(B) The heater's surface temperature cannot exceed 130° F. (54° C.)—either on a thermostatically controlled heater or on a heater without thermostatic control when the outside or ambient temperature is 60° F. (15.6° C.) or less.

(C) The heater is not ignited in a loaded vehicle.

(D) There is no flame, either on the catalyst or anywhere in the heater.

(E) The manufacturer has certified that the heater meets the requirements under paragraph (l)(2)(i) of this section by permanently marking the heater "*MEETS DOT REQUIREMENTS FOR CATALYTIC HEATERS USED WITH FLAMMABLE LIQUID AND GAS.*"

(F) The heater is also marked "*DO NOT LOAD INTO OR USE IN CARGO COMPARTMENTS CONTAINING FLAMMABLE LIQUID OR GAS IF FLAME IS VISIBLE ON CATALYST OR IN HEATER.*"

(G) Heater requirements under § 393.77 of this title are complied with.

(ii) *Effective date for combustion heater requirements.* The requirements under paragraph (l)(2)(i) of this section govern as follows—

(A) Use of a heater manufactured after November 14, 1975, is governed by every requirement under (l)(2)(i) of this section;

(B) Use of a heater manufactured before November 15, 1975, is governed only by the requirements under (l)(2)(i) (A), (C), (D), (F) and (G) of this section until October 1, 1976; and

(C) Use of any heater after September 30, 1976, is governed by every requirement under (l)(2)(i) of this section.

(iii) *Restrictions on automatic cargo-space-heating temperature control devices.* Restrictions on these devices have two dimensions: restrictions upon use and restrictions which apply when the device must not be used.

(A) *Use restrictions.* An automatic cargo-space-heating temperature control device may be used when transporting flammable liquid or flammable gas only if each of the following requirements is met—

(*1*) Electrical apparatus in the cargo compartment is nonsparking or explosion proof.

(*2*) There is no combustion apparatus in the cargo compartment.

(*3*) There is no connection for return of air from the cargo compartment to the combustion apparatus.

(*4*) The heating system will not heat any part of the cargo to more than 130° F. (54° C.).

(*5*) Heater requirements under § 393.77 of this title are complied with.

(B) *Protection against use.* Flammable liquid or flammable gas may be transported by a vehicle, which is equipped with an automatic cargo-space-heating temperature control device that does not meet each requirement of paragraph (l)(2)(iii)(A) of this section, only if the device is first rendered inoperable, as follows—

(*1*) Each cargo heater fuel tank, if other than LPG, must be emptied or removed.

(*2*) Each LPG fuel tank for automatic temperature control equipment must have its discharge valve closed and its fuel feed line disconnected.

(m) Tanks constructed and maintained in compliance with spec. 106A or 110A (§§ 179.300, 179.301) that are authorized for the shipment of hazardous materials by highway in Part 173 of this subchapter must be carried in accordance with the following requirements:

(1) Tanks must be securely chocked or clamped on vehicles to prevent any shifting.

(2) Equipment suitable for handling a tank must be provided at any point where a tank is to be loaded upon or removed from a vehicle.

(3) No more than two cargo carrying vehicles may be in the same combination of vehicles.

(4) Compliance with § 174.560 of this subchapter for combination rail freight, highway shipments and §§ 174.532 and 174.533 of this subchapter for trailer-on-flat-car service is required.

(n) Specification 56 or 57 (§§ 178.251, 178.252, 178.253 of this subchapter) port-

able tanks containing hazardous materials may not be stacked on each other nor may any other freight be stacked on them during transportation.

[29 FR 18795, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 177-10, 35 FR 1109, Jan. 28, 1970; Amdt. 177-17, 36 FR 18469, Sept. 15, 1971; Amdt. 177-60, 37 FR 2886, Feb. 9, 1972; Amdt. 177-21, 37 FR 5950, Mar. 23, 1972; Amdt. 177-31, 39 FR 41743, Dec. 2, 1974; Amdt. 177-32, 39 FR 45245, Dec. 31, 1974; Amdt. 177-34, 40 FR 46106, Oct. 6, 1975; 40 FR 49092, Oct. 2, 1975; Amdt. 117-35, 41 FR 16130, Apr. 15, 1976; Amdt. 177-35A, 41 FR 40476, Sept. 20, 1976; Amdt. 177-37, 41 FR 40476, Sept. 20, 1976]

§ 177.835 Explosives.

(See also § 177.834 (a) to (k).)

(a) *Engine stopped.* No explosives shall be loaded into or on or be unloaded from any motor vehicle with the engine running.

(b) *Care in loading, unloading, or other handling of explosives.* No bale hooks or other metal tools shall be used for the loading, unloading, or other handling of explosives, nor shall any package or other container of explosives, except barrels or kegs, be rolled. No packages of explosives shall be thrown or dropped during process of loading or unloading or handling of explosives. Special care shall be exercised to the end that packages or other containers containing explosives shall not catch fire from sparks or hot gases from the exhaust tailpipe.

(1) Whenever tarpaulins are used for covering explosives, they shall be secured by means of rope or wire tie downs. Explosives placards or markings required by § 177.823 shall be secured, in the appropriate locations, directly to the equipment transporting the explosives. If the vehicle is provided with placard boards, the placards must be applied to these boards.

(c) *Explosives on vehicles in combination.* Class A explosives may not be loaded into or carried on any vehicle of a combination of vehicles if:

(1) More than two cargo carrying vehicles are in the combination;

(2) Any full trailer in the combination has a wheel base of less than 184 inches;

(3) Any vehicle in the combination is a tank motor vehicle which is required to be marked or placarded under § 177.823; or

(4) The other vehicle in the combination contains any:

(i) Initiating explosive,

(ii) Packages of radioactive materials bearing "Yellow III" labels,

(iii) Class A or B poisons, or

(iv) Hazardous materials in a portable tank or a DOT specification 106A or 110A tank.

(d) [Reserved]

(e) *No sharp projections inside body of vehicles.* No motor vehicle transporting any kind of explosive shall have on the interior of the body in which the explosives are contained, any inwardly projecting bolts, screws, nails, or other inwardly projecting parts likely to produce damage to any package or container of explosives during the loading or unloading process or in transit.

(f) *Explosives vehicles, floors tight and lined.* Motor vehicles transporting class A or class B explosives shall have tight floors; shall have that portion of the interior in contact with the load lined with either non-metallic material or non-ferrous metals, except that the lining is not required for truck load shipments loaded by the Departments of the Army, Navy or Air Force of the United States Government provided the explosives are of such nature that they are not liable to leakage of dust, powder, or vapor which might become the cause of an explosion. The interior of the cargo space must be in good condition so that there will not be any likelihood of containers being damaged by exposed bolts, nuts, broken side panels or floor boards, or any similar projections.

(g) No blasting cap, regardless of type, may be transported on the same motor vehicle with any Class A or Class B explosive unless—

(1) It is packed in a specification MC 201 (§ 178.318 of this subchapter) container, or

(2) It is packed and loaded in accordance with a method approved by the Department. One method approved by the Department is as follows:

(i) The caps are packed in packagings prescribed in § 173.66(g) of this subchapter which in turn are loaded into portable containers or separate compartments meeting the requirements of the Institute of Makers of Explosives' Standard entitled "IME Standard for the Safe Transportation of Electric Blasting Caps in the Same Vehicle With Other Explosives," dated November 5, 1971 (IME Safety Library Publication No. 22).

(h) *Lading within body or covered, tailgate closed.* Except as provided in paragraphs (g), (k), and (m) of this section, dealing with the transportation of liquid nitroglycerin, desensitized liquid nitroglycerin or diethylene glycol dinitrate, other than as defined in § 173.53(e) of this subchapter, all of that portion of the lading of any motor vehicle which consists of explosives shall be contained entirely within the body of the motor vehicle or within the horizontal outline thereof, without overhang or projection of any part of the load, and if such motor vehicle has a tailboard or tailgate, it shall be closed and secured in place during such transportation. Every motor vehicle transporting explosives must either have a closed body or have the body thereof covered with a tarpaulin, and in either event care must be taken to protect the load from moisture and sparks, except that subject to other provisions of these regulations, explosives other than black powder may be transported on flat-bed vehicles if the explosive portion of the load on each vehicle is packed in fire and water resistant containers or covered with a fire and water resistant tarpaulin.

(i) *Explosives to be protected against damage by other lading.* No motor vehicle transporting any explosive may transport as a part of its load any metal or other articles or materials likely to damage such explosive or any package in which it is contained, unless the different parts of such load be so segregated or secured in place in or on the motor vehicle and separated by bulkheads or other suitable means as to prevent such damage.

(j) *Transfer of explosives en route.* No class A or class B explosive shall be transferred from one container to another, or from one motor vehicle to another vehicle, or from another vehicle to a motor vehicle, on any public highway, street, or road, except in case of emergency. In such cases red electric lanterns, red emergency reflectors or red flags shall be set out in the manner prescribed for disabled or stopped motor vehicles. (See Motor Carrier Safety Regulations, Part 392 of this subchapter.) In any event, all practicable means, in addition to these hereinbefore prescribed, shall be taken to protect and warn other users of the highway against the hazard involved in any such transfer or against the hazard occasioned by the emergency making such transfer necessary.

(k) *Loading requirements for liquid nitroglycerin, desensitized liquid nitroglycerin, or diethylene glycol dinitrate.* Liquid nitroglycerin, desensitized liquid nitroglycerin, or diethylene glycol dinitrate, other than as defined in § 173.53 (e) of this chapter, may be accepted for transportation and transported only by motor carriers other than common carriers if it be loaded into or on a truck having the type of body specified in spec. MC200 (§ 178.315 of this subchapter). No liquid nitroglycerin, desensitized liquid nitroglycerin or diethylene glycol dinitrate may be loaded directly above any other explosive, or in any quantity in excess of 900 quarts on one motor vehicle or 10 quarts in any one individual container. Additional quantities of explosives, other than nitroglycerin, desensitized liquid nitroglycerin or diethylene glycol dinitrate, excepting any type of blasting or percussion cap or other detonating device, may be carried on such motor vehicle in a closed or covered bed or body which shall be firmly bolted or fastened above the lid of the compartment containing the nitroglycerin, desensitized liquid nitroglycerin or diethylene glycol dinitrate. In no case shall the net load be more than 7,500 pounds. (See paragraph (m) of this section and spec. MC201 (§ 178.318 of this subchapter).

(l) *Separation of tools and supplies for preparing charges.* Motor vehicles transporting liquid nitroglycerin; desensitized liquid nitroglycerin or diethylene glycol dinitrate, may also transport the tools and supplies necessary for preparing and firing charges thereof: *Provided,* That such tools and supplies be properly secured in place so as to prevent their coming in contact with the body above specified.

(m) *Caps or other explosives.* Any explosive, including desensitized liquid explosives as defined in § 173.53(e) of this subchapter, other than liquid nitroglycerin, desensitized liquid nitroglycerin or diethylene glycol dinitrate, transported on any motor vehicle transporting liquid nitroglycerin, desensitized liquid nitroglycerin or diethylene glycol dinitrate, must be segregated, each kind from every other kind, and from tools or other supplies. Blasting caps must be packed in specification MC 201 (§ 178.318 of this subchapter) containers.

[29 FR 18795, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 177–17, 36 FR 18469, Sept. 15, 1971; Amdt. 177–22, 37 FR 21531, Oct. 12, 1972; Amdt. 177–31, 39 FR 41743, Dec. 2, 1974; Amdt. 177–35, 41 FR 16130, Apr. 15, 1976]

§ 177.836 Nonexplosive material.

(a) No restrictions are prescribed in Parts 170–189 of this subchapter for the packing, handling, and transportation of material relating to ammunition for cannon, but containing no explosive or other dangerous article, such as cartridge cases, "dummy" or "drill" cartridges, etc., sandloaded projectiles, sand-loaded bombs, empty projectiles, empty mines, empty bombs, solid projectiles, or empty torpedoes. Rotating bands should be protected against deformation by method of packing or loading.

[29 FR 18795, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 177–35, 41 FR 16130, Apr. 15, 1976]

§ 177.837 Flammable liquids.

(See also § 177.834 (a) to (k).)

(a) *Engine stopped.* Unless the engine of the motor vehicle is to be used for the operation of a pump, no flammable liquid shall be loaded into, or on, or unloaded from any motor vehicle while the engine is running.

(b) *Bonding and grounding containers other than cargo tanks prior to and during transfer of lading.* For containers which are not in metallic contact with each other, either metallic bonds or ground conductors shall be provided for the neutralization of possible static charges prior to and during transfers of flammable liquids between such containers. Such bonding shall be made by first connecting an electric conductor to the container to be filled and subsequently connecting the conductor to the container from which the liquid is to come, and not in any other order. To provide against ignition of vapors by discharge of static electricity, the latter connection shall be made at a point well removed from the opening from which the flammable liquid is to be discharged.

(c) *Bonding and grounding cargo tanks before and during transfer of lading.* (1) When a cargo tank is loaded through an open filling hole, one end of a bond wire shall be connected to the stationary system piping or integrally connected steel framing, and the other end to the shell of the cargo tank to provide a continuous electrical connection. (If bonding is to the framing, it is essential that piping and framing be electrically interconnected.) This connection must be made before any filling hole is opened, and must remain in place until after the last filling hole has been closed. Additional bond wires are not needed around All-Metal flexible or swivel joints, but are required for nonmetallic flexible connections in the stationary system piping. When a cargo tank is unloaded by a suction-piping system through an open filling hole of the cargo tank, electrical continuity shall be maintained from cargo tank to receiving tank.

(2) When a cargo tank is loaded or unloaded through a vapor-tight (not open hole) top or bottom connection, so that there is no release of vapor at a point where a spark could occur, bonding or grounding, is not required. Contact of the closed connection must be made before flow starts and must not be broken until after the flow is completed.

(3) Bonding or grounding is not required when a cargo tank is unloaded through a nonvapor-tight connection into a stationary tank provided the metallic filling connection is maintained in contact with the filling hole.

(d) Pyroforic liquids in cylinders. Cylinders containing pyroforic liquids, n.o.s., unless packed in strong wooden boxes and secured therein to protect valves, must be loaded with all valves and safety relief devices in the vapor space, and must be secured so that no shifting will occur in transit.

(e) *Manholes and valves closed.* A person shall not drive a tank motor vehicle and a motor carrier shall not require or permit a person to drive a tank motor vehicle containing a flammable liquid (regardless of quantity) unless—

(1) All manhole closures on the cargo tank are closed and secured; and

(2) All valves and other closures in liquid discharge systems are closed and free of leaks.

[29 FR 18795, Dec. 29, 1964, as amended by Order 66, 30 FR 5748, Apr. 23, 1965; Amdt. 177–16, 36 FR 10785, June 3, 1971; Amdt. 177–31, 39 FR 41743, Dec. 2, 1974; Amdt. 177–37, 41 FR 40476, Sept. 20, 1976]

§ 177.838 Flammable solids and oxidizing materials.

(See also § 177.834 (a) to (k).)

(a) *Lading within body or covered; tailgate closed; pick-up and delivery.* All of that portion of the lading of any motor vehicle transporting flammable solids or oxidizing materials shall be contained entirely within the body of the motor vehicle and shall be covered by such body, by tarpaulins, or other suitable means, and if such motor vehicle has a tailboard or tailgate, it shall be closed and secured in place during such transportation: *Provided, however,* That the provisions of this paragraph need not apply to "pick-up and delivery" motor vehicles when such motor vehicles are used in no other transportation than in and about cities, towns, or villages.

(b) *Articles to be kept dry.* Special care shall be taken in the loading of any motor vehicle with flammable solids or oxidizing materials which are likely to become hazardous to transport when wet, to keep them from being wetted during the loading process and to keep them dry during transit. Special care shall also be taken in the loading of any motor vehicle with flammable solids or oxidizing materials, which are likely to become more hazardous to transport by wetting, to keep them from being wetted during the loading process and to keep them dry during transit. Examples of such dangerous materials are charcoal screenings, ground, crushed, or pulverized charcoal, and lump charcoal.

(c) *Lading ventilation, precautions against spontaneous combustion.* Whenever a motor carrier has knowledge concerning the hazards of spontaneous combustion or heating of any article to be loaded on a motor vehicle, such article shall be so loaded as to afford sufficient ventilation of the load to provide reasonable assurance against fire from this cause; and in such a case the motor vehicle shall be unloaded as soon as practicable after reaching its destination. Charcoal screenings, or ground, crushed, granulated, or pulverized charcoal, in bags, shall be so loaded that the bags are laid horizontally in the motor vehicle, and so piled that there will be spaces for effective air circulation, which spaces shall not be less than 4 inches wide; and air spaces shall be maintained between rows of bags. Bags shall not be piled closer than 6 inches from the top of any motor vehicle with a closed body.

(d) *Loose or baled nitrate of soda bags.* Loose or baled unwashed, empty bags, having contained nitrate of soda, may be transported in truckload lots only in motor vehicles, and such motor vehicles must have closed or covered bodies lined with paper; such shipments are required to be loaded by the shipper and to be unloaded by the consignee.

(e) *Staying or blocking of packages of matches.* Special care shall be exercised in the loading of packages containing "strike-anywhere" matches to prevent the shifting or jamming of any such package during transit. To this end, the packages shall be compactly loaded with the strongest dimensions of each box or other container loaded lengthwise of the motor vehicle.

(1) *Smooth vehicle interior for matches.* Unless strike-anywhere matches are contained in wooden outside boxes, special care shall be taken to provide that the inside surfaces of any motor vehicle into which such matches are to be loaded and with which surfaces the containers might come in contact, shall be smooth, without protrusions of any sort, such as bolts, nuts, sharp edges, or corners, etc., and there shall be provided for this purpose smooth wooden inner linings, if the interior of the motor vehicle is not otherwise smooth in accordance with this requirement.

(2) *Flammable liquids.* Matches must not be loaded next to a package bearing a flammable liquid label.

(f) Nitrates, except ammonium nitrate having organic coating, listed in § 173.182 (b) must be loaded in closed or open type motor vehicles, which must be swept clean and be free of any projections capable of injuring bags when so packaged. When shipped in open type motor vehicles, the lading must be suitably covered. Ammonium nitrate having organic coating must not be loaded in all-metal vehicles, other than those made of aluminum or aluminum alloys, of the closed type. (See § 177.823 (a) (4) and (5).)

(g) Smokeless powder for small arms in quantities not exceeding 100 pounds net weight transported in one car or motor vehicle may be classed as a flammable solid when approved for this classification by the Bureau of Explosives. Maximum quantity in any inside packaging must not exceed 8 pounds and inside packagings must be arranged and protected so as to prevent simultaneous ignition of the contents. The complete package must be a type approved by the Bureau of Explosives. Each outside packaging must bear a flammable solid label.

[29 FR 18795, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 177-24, 38 FR 5315, Feb. 27, 1973]

§ 177.839 Corrosive liquids.

(See also § 177.834 (a) to (k).)

(a) *Nitric acid.* In addition to the requirements set forth in paragraph (b) of this section no carboy or other container of nitric acid shall be loaded above any container containing any other kind of material. The loading of carboys or other containers of nitric acid shall be limited to two tiers high.

(b) *Carboys and frangible containers.* In general, individual carboys and frangible containers of corrosive liquids, including charged electric storage batteries, must, when loaded by hand, be individually loaded into and unloaded from any motor vehicle in which they are to be, or have been, transported. All reasonable precautions must be taken to prevent, by all practicable means, the dropping of any such containers or batteries containing corrosive liquids. No such container or battery may be loaded into a motor vehicle having an uneven floor surface. It shall be permissible to load on or transport in any motor vehicle any authorized carboys or frangible shipping containers, containing corrosive liquids, more than one tier high above any floor only if such carboys or other containers are boxed or crated, or are in barrels or kegs, as required by Parts 170–189 of this subchapter, and only if such containers are so stacked that the weight of each tier above the first is entirely supported by the boxes, crates, barrels, kegs, or other authorized means of enclosing the carboys or frangible containers. Only so many tiers as may adequately be so supported without danger of crushing or breaking, shall be permitted. Means must be provided to prevent by all practicable means, in all cases, the shifting of containers or batteries during transit. Nothing contained in this section shall be so construed as to prevent the use of cleats or other retaining means for the purpose of preventing shifting of containers or batteries. For the purposes of this section a false floor or platform, secured against relative motion within the body of the motor vehicle, shall be deemed to be a floor. (For recommendations for handling leaking or broken packages, see § 177.858 (a).)

(c) *Storage batteries.* In addition to the requirements set forth in paragraph (b) of this section, all storage batteries containing any electrolyte shall be so loaded, if loaded with other lading, that all such batteries will be protected against other lading falling onto or against them; and adequate means shall be provided in all cases for the protection and insulation of battery terminals against short circuits.

(d) *Corrosives in cargo tanks.* A person shall not drive a tank motor vehicle and a motor carrier shall not require or permit a person to drive a tank motor vehicle containing corrosives (regardless of quantity) unless—

(1) All manhole closures on the cargo tank are closed and secured; and

(2) All valves and other closures in liquid discharge systems are closed and free of leaks.

[29 FR 18795, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 177-21, 37 FR 5950, Mar. 23, 1972; Amdt. 177-31, 39 FR 41743, Dec. 2, 1974; Amdt. 177-35, 41 FR 16130, Apr. 15, 1976; Amdt. 177-37, 41 FR 40476, Sept. 20, 1976]

§ 177.840 Compressed gases.

(See also § 177.834 (a) to (k).)

(a) *Floors or platforms essentially flat.* Cylinders containing compressed gases shall not be loaded onto any part of the floor or platform of any motor vehicle which is not essentially flat; cylinders containing compressed gases may be loaded onto any motor vehicle not having a floor or platform only if such motor vehicle be equipped with suitable racks having adequate means for securing such cylinders in place therein. Nothing contained in this section shall be so construed as to prohibit the loading of such cylinders on any motor vehicle having a floor or platform and racks as hereinbefore described.

(1) *Cylinders.* To prevent their overturning, cylinders containing compressed gases must be securely lashed in an upright position; loaded into racks securely attached to the motor vehicle; packed in boxes or crates of such dimensions as to prevent their overturning; or loaded in a horizontal position. Specification DOT-4L cylinders must be loaded in an upright position and securely braced.

(2) *Cylinders for liquefied hydrogen.* Specification DOT-4L cylinders containing liquefied hydrogen must be transported only on motor vehicles with open bodies which are equipped with suitable racks or supports having clamps or securing bands capable of holding the cylinders upright when they are subjected to an acceleration of at least 2 "g" in any horizontal direction.

(i) The combined total of the hydrogen venting rates as marked on the cylinders on one motor vehicle must not exceed 60 standard cubic feet per hour.

(ii) Motor vehicles loaded with cylinders containing liquefied hydrogen may not be driven through tunnels.

(iii) Highway transportation is limited to private and contract motor carriers only and to direct movement from point of origin to destination.

(b) Portable tank containers containing compressed gases shall be loaded on motor vehicles only as follows:

(1) Onto a flat floor or platform of a motor vehicle.

(2) Onto a suitable frame of a motor vehicle.

(3) In either such case, such containers shall be safely and securely blocked or held down to prevent movement relative to each other or to the supporting structure when in transit, particularly during sudden starts and stops and changes of direction of the vehicle.

(4) Requirements of subparagraphs (1) and (2) of this paragraph shall not be construed as prohibiting stacking of containers, provided the provisions of subparagraph (3) of this paragraph are fully complied with.

(c) [Reserved]

(d) *Engine to be stopped in tank motor vehicles, except for transfer pump.* No flammable compressed gas shall be loaded into or on or unloaded from any tank motor vehicle with the engine running unless the engine is used for the operation of the transfer pump of the vehicle. Unless the delivery hose is equipped with a shut-off valve at its discharge end, the engine of the motor vehicle shall be stopped at the finish of such loading or unloading operation while the filling or discharge connections are disconnected.

(e) Chlorine cargo tanks shall be shipped only when equipped (1) with a gas mask of a type approved by the U.S. Bureau of Mines for chlorine service; (2) with an emergency kit for controlling leaks in fittings on the dome cover plate.

(f) No chlorine tank motor vehicle used for transportation of chlorine shall be moved, coupled or uncoupled, when any loading or unloading connections are attached to the vehicle, nor shall any semi-trailer or trailer be left without the power unit unless such semi-trailer or trailer be checked or equivalent means be provided to prevent motion.

(g) Each liquid discharge valve on a cargo tank, other than an engine fuel line valve, must be closed during transportation except during loading and unloading.

[29 F.R. 18795, Dec. 29, 1964, as amended by Amdt. 177-5, 34 F.R. 7162, May 1, 1969; Amdt. 177-10, 35 FR 1110, Jan. 28, 1970; Amdt. 177-28, 38 FR 27598, Oct. 5, 1973; Amdt. 177-37, 41 FR 40476, Sept. 20, 1976]

§ 177.841 Poisons.

(See also § 177.834 (a) to (k).)

(a) *Arsenical compounds in bulk.* Care shall be exercised in the loading and unloading of "arsenical dust", "arsenic trioxide", and "sodium arsenate", allowable to be loaded into sift-proof, steel hopper-type or dump-type motor-vehicle bodies equipped with water-proof, dust-proof covers well secured in place on all openings, to accomplish such loading with the minimum spread of such compounds into the atmosphere by all means that are practicable; and no such loading or unloading shall be done near or adjacent to any place where there are or are likely to be, during the loading or unloading process assemblages of persons other than those engaged in the loading or unloading process, or upon any public highway or in any public place.

(1) The motor vehicles must be marked in accordance with § 173.368(b) of this chapter.

(2) Before any motor vehicle may be used for transporting any other articles, all detectable traces of arsenical materials must be removed therefrom by flushing with water, or by other appropriate method, and the marking removed.

(b) No Class A or irritating materials in cargo tanks. No poison, Class A, or irritating material may be loaded into or transported in any cargo tank.

(c) *Class A poisons or irritating materials.* The transportation of a Class A poison or an irritating material is not permitted if there is any interconnection between packagings.

(d) *Poisons in cargo tanks.* A person shall not drive a tank motor vehicle and a motor carrier shall not require or permit a person to drive a tank motor vehicle containing poisons (regardless of quantity) unless—

(1) All manhole closures on the cargo tank are closed and secured; and

(2) All valves and other closures in liquid discharge systems are closed and free of leaks.

(e) A carrier may not transport a package bearing a poison label in the same transport vehicle with material that is marked as or known to be foodstuff, feed or any other edible material intended for consumption by humans or animals.

[29 FR 18795, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967, and amended by Amdt. 177-5, 34 FR 7163, May 1, 1969; Amdt. 177-9, 34 FR 18554, Nov. 21, 1969; Amdt. 177-10, 35 FR 1110, Jan. 28, 1970; Amdt. 177-24, 38 FR 5315, Feb. 27, 1973; Amdt. 177-31, 39 FR 41743, Dec. 2, 1974; Amdt. 177-35, 41 FR 16130, Apr. 15, 1976; Amdt. 177-37, 41 FR 40476, Sept. 20, 1976]

§ 177.842 Radioactive material.

(a) The number of packages of radioactive materials in any motor vehicle, trailer, or storage location must be limited so that the total transport index number, as defined in § 173.389(i) of this subchapter and determined by adding together the transport index numbers on the labels of the individual packages, does not exceed 50. This provision does not apply to exclusive use shipments described in § 173.393(j), 173.396(f), or 173.392 of this subchapter.

(b) Packages of radioactive material bearing "radioactive yellow-II" or "radioactive yellow-III" labels must not be placed in a motor vehicle or in any other place closer than the distances shown in the following table to any area which may be continuously occupied by passengers, employees, or shipments of animals, nor closer than the distances shown in the table below to any package containing undeveloped film (if so marked). If more than one of these packages is present, the distance shall be computed from the following table on the basis of the total transport index number (determined by adding together the transport index numbers on the labels of the individual packages) or packages in the vehicle or storeroom. Where more than one group of packages is present in any single storage location, a single group may not have a total transport index greater than 50. Each group of packages must be handled and stowed not closer than 6 meters (20 feet) (measured edge to edge) to any other group.

(c) Shipments of low specific activity materials, as defined in § 173.391 of this subchapter, must be loaded so as to avoid spillage and scattering of loose materials. Loading restrictions are set forth in § 173.397 of this subchapter.

(d) Packages must be so blocked and braced that they cannot change position during conditions normally incident to transportation.

Total transport index	Minimum separation distances in feet to nearest undeveloped film for various times of transit					Minimum distance in feet to area of persons, or minimum distance in feet from dividing partition of cargo compartments
	Up to 2 hours	2-4 hours	4-8 hours	8-12 hours	Over 12 hours	
None	0	0	0	0	0	0
0.1 to 1.0	1	2	3	4	5	1
1.1 to 5.0	3	4	6	8	11	2
5.1 to 10.0	4	6	9	11	15	3
10.1 to 20.0	5	8	12	16	22	4
20.1 to 30.0	7	10	15	20	29	5
30.1 to 40.0	8	11	17	22	33	6
40.1 to 50.0	9	12	19	24	36	7

NOTE 1: The distance in the table must be measured from the nearest point on the packages of radioactive materials.

(e) Persons should not remain unnecessarily in a vehicle containing radioactive materials.

(f) Each fissile class III radioactive material shipment (as defined in § 173.389(a)(3) of this subchapter) must be transported in accordance with one of the methods prescribed in § 173.396(g) of this subchapter. The transport controls must be adequate to assure that no fissile class III shipment is transported in the same transport vehicle with any other fissile radioactive material shipment. In loading and storage areas each fissile class III shipment must be segregated by a distance of a least 20 feet from other packages required to bear one of the "Radioactive" labels described in § 173.416 of this subchapter.

[Amdt. 177-3, 33 FR 14933, Oct. 4, 1968; 33 FR 19823, Dec. 27, 1968; Amdt. 177-23, 38 FR 4399, Feb. 14, 1973; 38 FR 5315, Feb. 27, 1973; Amdt. 177-32, 39 FR 45245, Dec. 31, 1974; Amdt. 177-35, 41 FR 16131, Apr. 15, 1976; Amdt. 177-37, 41 FR 40476, Sept. 20, 1976]

§ 177.843 Contamination of vehicles.

(a) Each motor vehicle used for transporting low specific activity radioactive materials in truckload lots under the provisions of § 173.392(d) of this subchapter must be surveyed with appropriate radiation detection instruments after each use. Carriers must not return such vehicles to service until the radiation dose rate at any accesible surface is not more than 0.5 millirem per hour, and there is no significant removable radioactive surface contamination (see § 173.399 of this subchapter).

(b) This section does not apply to any vehicle used solely for transporting radioactive material if a survey of the interior surface shows that the radiation dose rate does not exceed 10 millirem per hour at the interior surface or 2 millirem per hour at 3 feet from any interior surface. These vehicles must be stenciled with the words "For Radioactive Materials Use Only" in lettering at least 3 inches high in a conspicuous place, on both sides of the exterior of the vehicle. These vehicles must be kept closed at all times other than loading and unloading.

(c) In case of fire, accident, breakage, or unusual delay involving shipments of radioactive material, see § 177.861.

[Amdt. 177-3, 33 FR 14933, Oct. 4, 1968, as amended by Amdt. 177-35, 41 FR 16131, Apr. 15, 1976]

Subpart C—Loading and Storage Chart of Hazardous Materials

§ 177.848 Loading and storage chart of hazardous materials.

(a) Hazardous materials must not be loaded, transported or stored together, except as provided in the Loading and Storage Chart of Hazardous Materials shown in this section.

The following table shows the hazardous materials which must not be loaded or stored together.

The letter X at an intersection of horizontal and vertical columns shows that these articles must not be loaded or stored together, for example: Detonating fuzes class A, with or without radioactive components g horizontal column must not be loaded or stored with high explosives or propellant explosives, class A b vertical column.

		Low explosives or black powder	High explosives or propellant explosives, class A	Initiating or priming explosives, wet: Diazodinitrophenol, fulminate of mercury, guanyl nitrosamino guanylidene hydrazine, lead azide, lead styphnate, nitro mannite, nitrosoguanidine, pentaerythrite tetranitrate, tetrazene, lead mononitroresorcinate	Blasting caps, with or without safety fuse (including electric blasting caps), detonating primers	Ammunition for cannon with explosive projectiles, gas projectiles, smoke projectiles, incendiary projectiles, illuminating projectiles or shell; ammunition for small arms with incendiary projectiles; ammunition for small arms with explosive projectiles; rocket ammunition with explosive projectiles, gas projectiles, smoke projectiles, incendiary projectiles, illuminating projectiles; boosters (explosive); bursters (explosive); and supplementary charges (explosive) without detonators [c] [d]	Explosive projectiles; bombs; torpedoes; mines; rifle or hand grenades (explosive); jet thrust units (jato), class A; igniters, jet thrust, class A; rocket motors, class A; igniters, rocket motor, class A [e]	Detonating fuzes, class A, with or without radioactive components	Ammunition for cannon with empty, inert-loaded or solid projectiles, or without projectiles; rocket ammunition with empty, inert-loaded or solid projectiles	Propellant explosives, class B; jet thrust units (jato), class B; igniters, jet thrust, class B; rocket motors, class B; rocket engines (liquid), class B; igniters, rocket motor, class B; starter cartridges, jet engine, class B	Fireworks special or railway torpedoes	Small arms ammunition, or cartridges, practice ammunition.	Primers for cannon or small arms, empty cartridge bags—black powder igniters, empty cartridge cases, primed, empty grenades, primed, combination primers or percussion caps, toy caps, explosive cable cutters, explosive rivets	Percussion fuzes, tracer fuzes or tracers	Time, combination or detonating fuzes, class C	Cordeau detonant fuse, safety squibs, fuse lighters, fuse igniters, delay electric igniters, electric squibs, instantaneous fuse or igniter cord	Fireworks, common,	Flammable liquids or flammable gases; Flammable liquid or flammable gas label.	Flammable solids or oxidizing materials, Flammable solid, oxidizer, or organic peroxide label.	Corrosive liquids; Corrosive label.	Nonflammable gases; Nonflammable gas label.	Poisonous gases or liquids, in tank car tanks, cylinders, projectiles or bombs, poison gas label	Radioactive materials
		a	b	c	d	e	f	g	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CLASS A EXPLOSIVES																							
Low explosives or black powder	(a)	----	----	X	----	----	----	----	----	----	X	----	----	----	----	----	X	X	X	X	X	X	[f]X
High explosives or propellant explosives, class A	(b)	----	----	X	[a]X	----	----	X	----	----	X	----	----	----	----	----	X	X	X	X	X	X	[f]X
Initiating or priming explosives, wet: Diazodinitrophenol, fulminate of mercury, guanyl nitrosamino guanylidene hydrazine, lead azide, lead																							

styphnate, nitro mannite, nitrosoguanidine pentaerythrite tetranitrate, tetrazene, lead mononitroresorcinate	(e)	X	X	----	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	'X
Blasting caps, with or without safety fuse (including electric blasting caps), detonating primers	(d)	----	•X	X	----	X	X	----	----	----	•X	----	----	----	----	----	•X	•X	••X	•X	•X	X	'X
Ammunition for cannon with explosive projectiles, gas projectiles, smoke projectiles, incendiary projectiles, illuminating projectiles or shell ammunition for small arms with explosive bullets, or ammunition for smal arms with explosive projectiles, or rocket ammunition with explosive projectiles, gas projectiles, smoke projectiles, incendiary projectiles, illuminating projectiles; and boosters (explosive), bursters (explosive), or supplementary charges (explosive) without detonators e d	(e)	----	----	X	X	----	----	X	----	----	X	----	----	----	----	----	X	X	X	X	X	X	'X
Explosive projectiles, bombs, torpedoes, or mines, rifle or hand grenades (explosive), jet thrust units (jato), explosive, class A, or igniters, jet thrust (jato), explosive, class A e	(f)	----	----	X	X	----	----	X	----	----	X	----	----	----	----	----	X	X	X	X	X	X	'X
Detonating fuzes, class A, with or without radioactive components	(g)	----	X	X	----	X	X	----	----	----	X	----	----	----	----	----	X	X	X	X	X	X	'X
CLASS B EXPLOSIVES																							
Ammunition for cannon with empty, inert-loaded or solid projectiles, or without projectiles, or rocket ammunition with empty projectiles, inert-loaded or solid projectiles or without projectiles	1	----	----	X	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	•X	----	X	----
Propellant explosives, class B, jet thrust units (jato), class B, igniters, jet thrust (jato), class B, or starter cartridges, jet engine, class B	2		----	X	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	•X	----	X	----
Fireworks, special or railway torpedoes	3	X	X	X	•X	X	X	X	----	----	----	----	----	----	----	----	----	----	----	----	----	X	----

See **footnotes at end of table.**

Subpart C—Loading and Storage Chart of Hazardous Materials—Continued

§ 177.848 Loading and storage chart of hazardous materials—Continued

The following table shows the hazardous materials which must not be loaded or stored together.

The letter X at an intersection of horizontal and vertical columns shows that these articles must not be loaded or stored together, for example: Detonating fuzes class A, with or without radioactive components g horizontal column must not be loaded or stored with high explosives or propellant explosives, class A b vertical column.

		Low explosives or black powder	High explosives or propellant explosives, class A	Initiating or priming explosives, wet: Diazodinitrophenol, fulminate of mercury, guanyl nitrosamino guanylidene hydrazine, lead azide, lead styphnate, nitro mannite, nitrosoguanidine, pentaerythrite tetranitrate, tetrazene, lead mononitroresorcinate	Blasting caps, with or without safety fuse (including electric blasting caps), detonating primers	Ammunition for cannon with explosive projectiles, gas projectiles, smoke projectiles, incendiary projectiles, illuminating projectiles or shell, ammunition for small arms with explosive bullets, or ammunition for small arms with explosive projectiles, or rocket ammunition with explosive projectiles, gas projectiles, smoke projectiles, incendiary projectiles, illuminating projectiles; and boosters (explosive), bursters (explosive), or supplementary charges (explosive) without detonators [c,d]	Explosive projectiles, bombs, torpedoes, or mines, rifle or hand grenades (explosive), jet thrust units (jato), explosive, class A or igniters, jet thrust (jato), explosive, class A [e]	Detonating fuzes, class A, with or without radioactive components	Ammunition for cannon with empty, inert-loaded or solid projectiles, or without projectiles, or rocket ammunition with empty projectiles, inert-loaded or solid projectiles or without projectiles	Propellant explosives, class B, jet thrust units (jato), class B, igniters, jet thrust (jato), class B, or starter cartridges, jet engines, class B	Fireworks, special or railway torpedoes	Small arms ammunition, or cartridges, practice ammunition	Primers for cannon or small arms, empty cartridge bags—black powder igniters, empty cartridge cases, primed, empty grenades, primed, combination primers or percussion caps, toy caps, explosive cable cutters, explosive rivets	Percussion fuzes, tracer fuzes or tracers	Time, combination or detonating fuzes, class C	Cordeau detonant fuse, safety squibs, fuse lighters, fuse igniters, delay electric igniters, electric squibs, instantaneous fuse or igniter cord	Fireworks, common	Flammable liquids or compressed flammable gases, red label	Flammable solids or oxidizing materials, yellow label	Acids or corrosive liquids, white label	Compressed nonflammable gases, green label	Poisonous gases or liquids in tank car tanks, cylinders, projectiles or bombs, poison gas label	Radioactive materials
		a	b	c	d	e	f	g	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CLASS C EXPLOSIVES																							
Small arms ammunition, or cartridges, practice ammunition	4			X																			
Primers for cannon or small arms, empty cartridge bags—black powder igniters, empty cartridge cases, primed, empty grenades, primed, combination primers or percussion caps, toy caps, explosive cable cutters, explosive rivets	5			X																			
Percussion fuzes, tracer fuzes or tracers	6			X																			

Time, combination or detonating fuzes, class C	7	----	----	X	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Cordeau detonant fuse, safety squibs, fuse lighters, fuse igniters, delay electric igniters, electric squibs, instantaneous fuse or igniter cord	8	----	----	X	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Fireworks, common	9	X	X	X	[a]X	X	X	X	----	----	----	----	----	----	----	----	----	----	----	----	----	X	----
OTHER DANGEROUS ARTICLES																							
Flammable liquids or flammable gases; Flammable liquid or flammable gas label	10	X	X	X	[a]X	X	X	X	----	----	----	----	----	----	----	----	----	----	----	----	----	X	----
Flammable solids or oxidizing materials; Flammable solid, oxidizer, or organic peroxide label	11	X	[e]X	X	[a][e]X	X		X	----	----	----	----	----	----	----	----	----	----	----	[b]X	----	X	----
Corrosive liquids; Corrosive label	12	X	X	X	[a]X	X	X	X	[b]X	[b]X	----	----	----	----	----	----	----	----	[b]X	----	----	X	----
Nonflammable gases; Nonflammable gas label	13	X	X	X	[a]X	X	X	X	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Poisonous gases or liquids in tank car tanks, cylinders, projectiles or bombs, poison gas label	14	X	X	X	X	X	X	X	X	X	X	----	----	----	----	----	X	X	X	X	----	----	----
Radioactive materials	15	[f]X	[f]X	[f]X	[f]X	[f]X	[f]X	[f]X	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

[a] Blasting caps or electric blasting caps in quantities not exceeding 1,000 caps may also be loaded and transported with articles named in vertical and horizontal columns 3, 9, 10, 11, 12, and 13. Loading and transportation of blasting caps or electric blasting caps except as prescribed in § 177.835, in any quantity, with articles named in vertical or horizontal columns b, c, e, or f is prohibited.

[b] Corrosive liquids must not be loaded above or adjacent to flammable solids, oxidizing materials, ammunition for cannon with or without projectiles, or propellant explosives, except that shippers loading truckload shipments of corrosive liquids and flammable solids or oxidizing materials packages and who have obtained prior approval from the Department may load such materials together when it is known that the mixture of contents would not cause a dangerous evolution of heat or gas.

[c] Explosives, class A and explosives, class B must not be loaded or stored with chemical ammunition containing incendiary charges or white phosphorus either with or without bursting charges.

[d] Bursters (explosive), boosters (explosive), or supplementary charges (explosive) without detonators when shipped by, to or for the Departments of the Army, Navy, and Air Force of the United States Government may be loaded with any of the articles named except those in columns c, d, 3, 9, 10, 11, 12, 13, 14, and 15.

[e] Does not include nitro carbo nitrate or ammonium nitrate, fertilizer grade, which may be loaded, transported or stored with high explosives or with blasting caps or electric blasting caps, and detonating primers.

[f] Normal uranium, depleted uranium, and thorium metal in solid form may also be loaded and transported with articiles named in vertical and horizontal columns a, b, c, d, e, f, and g.

NOTE 1: Charged electric storage batteries must not be loaded in the same vehicle with explosives, class A.

NOTE 2: Cyanides or cyanide mixtures must not be loaded or stored with acids or corrosive liquids.

NOTE 3: Gas identification sets may be loaded and transported with all articles named except those in column c.

NOTE 4: Nitric acid, when loaded in the same motor vehicle with other acids or other corrosive liquids in carboys, must be separated from the other carboys. A 2 by 6 inch plank, set on edge, should be nailed across the motor vehicle floor at least 12 inches from the nitric acid carboys, and the space between the plank and the carboys of nitric acid should be filled with sand, sifted ashes, or other incombustible absorbent material.

NOTE 5: Smokeless powder for small arms in quantities not exceeding 100 pounds net weight in one motor vehicle shall be classed as a flammable solid for purposes of transportation when approved for such classification by the Bureau of Explosives.

[29 FR 18795, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967 and amended by Order 66, 30 FR 5748, Apr. 23, 1965; Order 72, 31 FR 6425, Apr. 28, 1966; Order 71, 31 FR 9073, July 1, 1966; Amdt. 177-3, 33 FR 14934, Oct. 4, 1968; Amdt. 177-5, 34 FR 12282, July 25, 1969; Amdt. 177-17, 36 FR 18469, Sept. 15, 1971; Amdt. 177-19, 36 FR 21202, Nov. 4, 1971; Amdt. 177-24, 38 FR 5315, Feb. 27, 1973; Amdt. 177-25, 38 FR 20085, July 27, 1973]

Subpart D—Vehicles and Shipments in Transit; Accidents

§ 177.853 Transportation and delivery of shipments.

(a) *No unnecessary delay in movement of shipments.* All shipments of hazardous materials shall be transported without unnecessary delay, from and including the time of commencement of the loading of the cargo until its final discharge at destination.

(b) *Delivery at destination.* Shipments of hazardous materials which are refused by the consignees, or which can not be delivered within 48 hours after arrival at destination, must be promptly disposed of (1) by return to the shipper, if in proper shipping condition, or (2) by storage, provided a suitable storage place for such articles is available, or (3) by sale, or (4) when necessary to safety, by destruction: *Provided,* That charged electric batteries may be held for 30 days after arrival at destination, pending delivery or disposition.

(c) *Delivery to authorized person, or magazine.* Every shipment of dangerous explosives by motor vehicle shall be delivered only to someone authorized to receive it, except such explosives shipments as are placed in magazines which are immediately thereafter locked.

§ 177.854 Disabled vehicles and broken or leaking packages; repairs.

(See also Forbidden articles, § 177.821)

(a) *Care of lading, hazardous materials.* Whenever for any cause other than necessary traffic stops any motor vehicle transporting any hazardous material is stopped upon the traveled portion of any highway or shoulder thereof, special care shall be taken to guard the vehicle and its load or to take such steps as may be necessary to provide against hazard. Special effort shall be made to remove the motor vehicle to a place where the hazards of the materials being transported may be provided against. See §§ 392.22, 392.24, and 392.25 of this title for warning devices required to be displayed on the highway.

(b) *Disposition of containers found broken or leaking in transit.* When leaks occur in packages or containers during the course of transportation, subsequent to initial loading, disposition of such package or container shall be made by the safest practical means afforded under paragraphs (c), (d), and (e) of this section.

(c) *Repairing packages.* Packages may be repaired when safe and practicable, such repairing to be in accordance with the best and safest practice known and available.

(d) *Transportation of repaired packages.* Any package repaired in accordance with the requirements of paragraph (c) of this section, except as provided in §§ 177.855 (c), 177.856 (c), and 177.858 (b), may be transported to the nearest place at which it may safely be disposed of only in compliance with the following requirements:

(1) The package must be safe for transportation.

(2) The repair of the package must be adequate to prevent contamination of or hazardous admixture with other lading transported on the same motor vehicle therewith.

(3) If the carrier is not himself the shipper, the consignee's name and address must be plainly marked on the repaired package.

(e) *Disposition of unsafe broken packages.* In the event any leaking package or container cannot be safely and adequately repaired for transportation or transported, it shall be stored pending proper disposition in the safest and most expeditious manner possible.

(f) *Stopped vehicles; other dangerous articles.* Whenever any motor vehicle transporting flammable liquids, flammable solids, oxidizing materials, corrosive materials, compressed gases, or poisons, is stopped for any cause other than necessary traffic stops upon the traveled portion of any highway, or a shoulder next thereto, the following requirements shall be complied with during the period of such stop:

(1) For motor vehicles other than cargo tank motor vehicles used for the transportation of flammable liquids or flammable compressed gases and not transporting explosives, Class A, or Class B, warning devices must be set out in the manner prescribed by § 392.22 of this title.

(2) For cargo tank motor vehicles used for the transportation of flammable liquids or flammable compressed gases, whether loaded or empty, and vehicles transporting explosives Class A or Class B, warning devices must be set out in the manner prescribed by § 392.25 of this title.

(g) *Repairs to disabled vehicles.* No repairs shall be made on any motor vehicle containing explosives or other dangerous articles except in case such repairs may be made without hazard; nor shall any such loaded motor vehicle be repaired in a closed garage.

(h) *No repair with flame unless gas-free.* No repair of a cargo tank used for the transportation of any flammable liquid or poisonous liquid, or any compartment thereof, or of any container for fuel of whatever nature, may be repaired by any method employing a flame, arc, or other means of welding, unless the tank or compartment shall first have been made gas-free.

[29 FR 18795, Dec. 29, 1964, as amended by Amdt. 177-17, 36 FR 18469, Sept. 15, 1971; Amdt. 177-21, 37 FR 5950, Mar. 23, 1972; Amdt. No. 177-31, 39 FR 41743, Dec. 2, 1974; Amdt. 177-31, 41 FR 27958, July 8, 1976]

§ 177.855 Accidents; explosives.

(a) *Vehicle disabled; warning of nearby persons; removal of explosives.* In the event of an accident involving any motor vehicle transporting any explosives, every available means shall be employed to prevent individuals, other than those employed in the protection of persons or property or in the removal of hazards or wreckage, from congregating in the vicinity; such means shall also be employed to prevent smoking, to keep flame away, and to safeguard against the aggravation of the hazard present, and to warn other users of the highway. In the event that any motor vehicle laden with or carrying dangerous explosives is entangled with another or with any other object or structure, following an accident, no attempt shall be made to disentangle either vehicle, or the laden vehicle from the object or structure, until the lading, together with any fragments thereof, be removed to a place at least 200 feet from the vehicle (and preferably 200 feet from any habitation). In the event of fire, involving a motor vehicle laden with any explosive, every practicable effort shall be made to give warning of danger of explosion to habitants in the vicinity and to other users of the highway.

(b) *Disposition of spilled or leaking explosives.* In the event of any accident involving any motor vehicle transporting any explosive in which packages are broken, all unbroken packages and as much of any broken packages as possible shall be carefully gathered and removed to a place of safety, in order to prevent fire or explosion. In clearing any wreck in which a motor vehicle containing any explosive is involved, care shall be exercised not to produce sparks with tools or by other means in moving of or working about the wreckage, so as to avoid as far as possible fires or explosions.

(c) *Explosives packages in transit capable of repair.* Any package of explosives found injured or broken in transit may be repaired or recoopered when this is evidently practicable and not dangerous. When a box that contains any explosive is so damaged that it cannot be repaired it should be reinforced by stout wrapping paper and twine, placed in another strong box, and surrounded by dry, fine sawdust, or dry and clean cotton waste, or elastic wads made from dry newspapers. The box cover should then be securely attached. A ruptured can or keg should be inclosed in a grain bag of good quality, and boxed. Injured packages thus protected, and properly marked with name of contents and consignee's name and address, may be carried to destination: *Provided, however,* That the motor carrier, if himself the shipper, need not mark his own name and address on the package.

(d) *Liquid nitroglycerin, desensitized liquid nitroglycerin or diethylene glycol dinitrate.* When any liquid nitroglycerin, desensitized liquid nitroglycerin or diethylene glycol dinitrate has been spilled on any portion of any motor vehicle it shall be washed with a suitable neutralizing agent until all of any such spillage shall have become completely neutralized.

NOTE 1: Liquid nitroglycerin, desensitized liquid nitroglycerin or diethylene glycol dinitrate may be destroyed by use of a solution composed of:

60 percent commercial sodium sulfide	1 ounce.
Denatured alcohol	7½ fluid ounces.
Acetone	2 fluid ounces.
Water	3 fluid ounces.

(e) *Explosives other than liquid nitroglycerin, desensitized liquid nitroglycerin or diethylene glycol dinitrate.* When particles of any explosive composition other than liquid nitroglycerin desensitized liquid nitroglycerin or diethylene glycol dinitrate have escaped from a damaged container to the floor of the body of the carrier's motor vehicle the floor shall be thoroughly swept and any absorbed portion removed.

(f) *Unrepairable explosives packages.* When any package of explosives in transit is found to be leaking or damaged and cannot be recoopered, it may not be transported beyond the minimum distance necessary to reach a place where the explosive may be disposed of with safety, except as provided in § 177.854 (e) and paragraph (c) of this section.

§ 177.856 Accidents; flammable liquids.

(a) *Accident to vehicle; warnings; no sparks or flame.* In the event of an accident involving any motor vehicle transporting any flammable liquid every available means shall be employed to prevent individuals, other than those employed in the protection of persons or property or in the removal of hazards or wreckage, from congregating in the vicinity; such means shall also be employed to prevent smoking, to keep fires or flame away, to safeguard against the hazard present, and to warn other users of the highway. (See also § 177.807.)

(b) *Present leakage from spreading.* Whenever any flammable liquid is escaping from a container, all practical means shall be taken to prevent such liquid from spreading over a wide area, from flowing into sewers and streams, and from becoming ignited.

(c) *Disposition of contents of cargo tank when unsafe to continue.* In the event of a leak in a cargo tank of such a character as to make further transportation unsafe, the leaking vehicle should be removed from the traveled portion of the highway; and every available means employed for the safe disposal of the leaking liquid by preventing, so far as practicable, its spread over a wide area, such as by digging trenches to drain to a hole or depression in the ground, diverting the liquid away from streams or sewers if possible, or catching the liquid in containers if practicable. Smoking and the lighting of cigarettes, cigars, or pipes in the vicinity is prohibited, and fires or flames in the vicinity of the leaking cargo tank must be extinguished.

(d) *Transfer of flammable liquids en route.* No flammable liquid shall be transferred from one container to another, or from one motor vehicle to another vehicle, or from another vehicle to a motor vehicle, on any public highway, street, or road, except in case of emergency. In such cases warning devices must be set out in the manner prescribed by § 392.25 of this title. In any event, all practicable means, in addition to those hereinbefore prescribed, shall be taken to protect and warn other users of the highway against the hazard involved in any such transfer, or against the hazard occasioned by the emergency making such transfer necessary. Nothing contained in this rule shall be so construed as to prohibit the fueling of machinery or vehicles used in road construction and maintenance.

(e) *Transportation of leaking cargo tanks.* A leaking cargo tank may only be transported the minimum distance necessary to reach a place where the contents of the tank or compartment may be disposed of with safety. Every available means must be utilized to prevent the leakage or spillage of the liquid upon the highway.

[29 FR 18795, Dec. 29, 1964. Redesignated, 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 177-17, 36 FR 18469, Sept. 15, 1971; Amdt. 177-27, 38 FR 23792, Sept. 4, 1973; Amdt. No. 177-31, 39 FR 41743, Dec. 2, 1974]

§ 177.857 Accidents; flammable solids and oxidizing materials.

(a) *Dangerous articles spilled; warning of nearby persons.* In the event of any accident involving any motor vehicle in which any flammable solid or oxidizing material may have become spilled, every practicable and available means shall be taken to warn all approaching persons of the hazard of fire.

(b) *Prevent spread of fire where possible.* Care shall be exercised in the event of damage to packages of flammable solids or oxidizing materials which either have been or may be on fire, to limit the spread of the fire.

(c) *Disposition of spilled or leaking materials.* In the event of any accident involving any motor vehicle transporting any flammable solid or oxidizing material in which packages are broken, as much as possible of any broken packages shall be carefully gathered and removed to a place of safety, and if the removal of unbroken packages from the motor vehicle would decrease the hazard of fire or other hazard, they shall be removed. The handling of any such materials not contained in packages shall be such as to promote the greatest safety to other users of the highway.

(d) *Reloading of damaged packages of matches; repairs.* In the event of damage to matches or packages of matches by fire or by water in extinguishing a fire in transit, they shall be reloaded in accordance with the applicable requirements for the packing and loading of matches. Great care shall be taken, however, first to examine and repair any damage to outside containers before reloading, and all loose matches shall be destroyed. Smoking boxes of matches shall not be opened in the vicinity of the remainder of the lading. Such boxes shall be destroyed at a safe distance from the motor vehicle, preferably by burning, and shall not be left, either smoking or burning.

(e) *Calcium hypochlorite compounds, dry, involved in fires.* Calcium hypochlorite compounds, dry, packed in metal drums when involved in motor vehicles where fire has occurred from any cause must be held at least five days before forwarding. Drums showing evidence of spontaneous heating or stress from internal pressure must not be reshipped.

§ 177.858 Accidents; corrosive materials.

(a) *Accident to vehicle; other lading damaged; vehicle washed.* In the event of any accident involving any motor vehicle transporting corrosive materials in which has been involved the breakage, spillage, or leakage of containers of such materials, care shall be exercised in the handling of any other lading which may have become damaged thereby so as to minimize the hazard in handling such damaged lading during the unloading process. The interior or any other parts of the motor vehicle upon which a corrosive liquid may have become spilled shall be thoroughly washed with water as soon after the unloading process as feasible and prior, in any event, to the subsequent reloading of the motor vehicle. (See also § 177.807.)

(b) *Leaking cargo tanks.* In the event of leakage of liquid from any cargo tank or any compartment thereof used for the transportation of corrosive liquids, which develops or is discovered subsequent to the commencement of transportation, any one of the following means, or any means in addition to those herein prescribed, equally or more effective, shall be employed to minimize further hazard:

(1) Further to transport the cargo tank only the minimum distance to reach a place where the contents of the tank or compartment which is leaking may be disposed of with safety, meanwhile employing every available means to prevent the spillage or leaking of any liquid on the highway.

(2) In the event the leak is of such a character as to make further transportation of the cargo tank unsafe, to draw off the traveled portion of the highway, and to employ every available means for the safe disposal of the leaking liquid by preventing, so far as practicable, its spread over a wide area, as by absorbing by means of the use of noncombustible absorbent material, such as fine ashes, sand, earth, etc., or by any other practicable means; by digging trenches to drain to a hole or depression in the ground; by diverting the liquid away from streams or sewers if possible; or by catching the liquid in containers if practicable. So far as practicable, every available means shall be employed to prevent the congregation of spectators and to prevent them from coming in contact with the liquid or its fumes. All available means shall be taken to prevent injury or damage to other users of the highway, or to livestock or farm animals, which might be occasioned by the unloading of the corrosive liquid.

[29 FR 18795, Dec. 29, 1964. Redesignated, 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 177-21, 37 FR 5950, Mar. 23, 1972; Amdt. 177-27, 38 FR 23792, Sept. 4, 1973]

§ 177.859 Accidents; compressed gases.

(a) *Accident to vehicle; warnings; keep fire away.* In the event of an accident involving any motor vehicle transporting any compressed gas, the release of which would constitute a hazard to other users of the highway, due care shall be taken that only persons employed in the removal of hazards or wreckage shall be allowed in proximity to the motor vehicle, and the shipper should be notified. In such cases, every practicable and available means shall be taken to warn all approaching persons of the danger involved and to caution them against the use of matches or flame-producing devices, if the gas is flammable.

(b) *Transfer of flammable gas en route; no flame or sparks.* No flammable compressed gas shall be transferred from one container to another, or from one tank motor vehicle to another tank vehicle, or from another tank vehicle to a tank motor vehicle, on any public highway, street, or road, except in case of emergency. In such cases every precaution shall be taken to prevent the escape of gas. Warning devices must be set out in the manner prescribed in § 392.25 of this title. All cargo tanks involved in such transfer shall be grounded. The transfer shall be made only during daylight, unless the emergency occurs at night or extends into hours of darkness and the hazard would be increased by waiting until daylight. In any such event, all practicable means, in addition to those hereinbefore prescribed, shall be taken to protect and warn other users of the highway against the hazard involved in any such transfer, or against the hazard occasioned by the emergency making such transfer necessary. Every precaution shall be taken to prevent the ignition of any flammable compressed gas from any source; and when it is possible to prevent the congregation of persons not directly concerned with the emergency, this shall be done. Every practicable precaution shall be taken to keep flames or fire away from the scene of the emergency and to prevent smoking or the lighting of pipes, cigars, or cigarettes. Similarly, special care shall be exercised in the operation of any engine, whether of the motor vehicles involved or any other, and where the operation of any such engine would be likely to produce ignition of the flammable compressed gas, the transfer shall be accomplished by other means, if possible. Nothing contained in this section shall be so construed as to prohibit the fueling of machinery or vehicles used in road construction and maintenance.

[29 F.R. 18795, Dec. 29, 1964, as amended by Amdt. 177-17, 36 F.R. 18469, Sept. 15, 1971; Amdt. No. 177-31, 39 FR 41743, Dec. 2, 1974]

§ 177.860 Accidents or leakage; poisons.

(a) *Accident to vehicle; warnings; no sparks of flame.* In the event of an accident involving any motor vehicle transporting any poison which is flammable, noxious, or toxic, every available means shall be employed in the protection of persons or property or in the removal of hazards or wreckage, from congregating in the vicinity; such means shall also be employed to prevent smoking, to keep flame away, to safeguard against the aggravation of the hazard present, and to warn other users of the highway. Care shall also be taken to prevent any poison, whether flammable or nonflammable, from contaminating streams or flowing or being spilled into sewers, and poison in powdered form from being scattered by wind. (See also § 177.807.)

(1) *Leakage.* A vehicle which has been used to transport material marked as or known to be poison (class A or B) must be inspected for contamination before reuse. A vehicle which has been contaminated must not be returned to service until such contamination has been removed. This subparagraph does not apply to vehicles used solely for transporting such poisons so long as they are used in that service.

(b) *Leaking cargo tanks.* In the event of leakage of liquid from any cargo tank or any compartment thereof used for the transportation of any poison which is also flammable, or which would come also within the definition of a flammable liquid, or of any gas or combination of gas and liquid, or any poison which would come within the definition of a compressed gas, the requirements shall be the same as those set forth for flammable liquids and compressed gases. In addition, all possible care shall be taken to warn bystanders or other users of the highway against the hazard of inhaling vapors or coming in contact with the poison.

[29 FR 18795, Dec. 29, 1964. Redesignated, 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 67-1, 32 FR 20982, Dec. 29, 1967; Amdt. 177-3, 33 FR 14934, Oct. 4, 1968; Amdt. 177-9, 34 FR 18554, Nov. 21, 1969; Amdt. 177-27, 38 FR 23792, Sept. 4, 1973]

§ 177.861 Accidents; radioactive materials.

(a) In addition to the incident reporting requirements of §§ 171.15 and 171.16 of this subchapter, the carrier must also notify the shipper at the earliest practicable moment following any incident in which there has been breakage, spillage, or suspected radioactive contamination involving radioactive materials shipments. Vehicles, buildings, areas, or equipment in which radioactive materials have been spilled may not be again placed in service or routinely occupied until the radiation dose rate at any accessible surface is less than 0.5 millirem per hour and there is no significant removable radioactive surface contamination (see § 173.397 of this subchapter).

Note 1: In these instances, the package or materials should be segregated as far as practicable from personnel contact. If radiological advice or assistance is needed, the U.S. Atomic Energy Commission should also be notified. In case of obvious leakage, or if it appears likely that the inside container may have been damaged, care should be taken to avoid inhalation, ingestion, or contact with the radioactive material. Any loose radioactive material should be left in a segregated area and held pending disposal instructions from qualified persons.

Note 2: Details involving the handling of radioactive materials in the event of an accident can be found in Bureau of Explosives' Pamphlets 1 and 2.

(b) *Cleaning vehicles.* See § 177.843.

[Amdt. 177-3, 33 FR 14934, Oct. 4, 1968, as amended by Amdt. 177-17, 36 FR 18469, Sept. 15, 1971; Amdt. 177-18, 36 FR 21201, Nov. 4, 1971; Amdt. 177-30, 39 FR 10910, Mar. 22, 1974; Amdt. 177-35, 41 FR 16131, Apr. 15, 1976]

Subpart E—Regulations Applying to Hazardous Material on Motor Vehicles Carrying Passengers for Hire

§ 177.870 Regulations for passenger carrying vehicles.

(a) *Vehicles transporting passengers and property.* In addition to the regulations in Parts 170–189 of this subchapter the following requirements shall apply to vehicles transporting passengers and property.

(b) *No explosives or other hazardous materials on passenger-carrying vehicles, exceptions.* No hazardous materials except small-arms ammunition, emergency shipments of drugs, chemicals and hospital supplies, and the accompanying munitions of war of the Departments of the Army, Navy, and Air Force of the United States Government, are authorized by Parts 170–189 of this subchapter to be transported on motor vehicles carrying passengers for hire where other practicable means of transportation is available.

(c) *Explosives in passenger-carrying space forbidden.* No explosive, except small-arms ammunition, may be carried in the passenger-carrying space of any motor vehicle transporting passengers for hire.

(d) *Hazardous materials on passenger-carrying vehicles; quantity.* Where no other practicable means of transportation is available the following articles in the quantities as shown may be transported in motor vehicles carrying passengers for hire in a space other than that provided for passengers: Not to exceed 100 pounds gross weight of any or all of the kinds of explosives permitted to be transported by rail express or rail baggage services, may be transported on a motor vehicle transporting passengers: *Provided, however,* That samples of explosives for laboratory examination, not exceeding a net weight of one-half pound each, and not exceeding 20 samples or not to exceed a total of 100 blasting caps at one time in a single motor vehicle, may be transported in a motor vehicle transporting passengers. (See § 172.5 of this subchapter.)

(e) *Articles other than explosives on passenger-carrying vehicles.* The gross weight of any given class of hazardous material other than explosives shall not exceed 100 pounds, and the aggregate weight of all such other dangerous articles shall not exceed 500 pounds. This provision does not apply to nontoxic, nonflammable refrigerants, when such refrigerant is for servicing operations of

a motor carrier on whose motor vehicles the refrigerant is used. A cylinder secured against movement while in transit and not exceeding 250 pounds gross weight may be transported.

(f) *Poisons on passenger-carrying vehicles.* No motor carrier may transport any extremely dangerous poison, class **A, any tear gas or irritating substance, class C, any less dangerous poison, class B, which is a liquid, or any paranitraniline, in any amount, in or on any bus while engaged in the transportation of passengers; or any less dangerous poison, class B, which is other than a liquid, in any amount exceeding an aggregate of 100 pounds gross weight in or on any such bus.**

(g) *Radioactive materials.* In addition to the limitations prescribed in paragraphs (b) and (e) of this section, no person may transport any radioactive material requiring labels under § 173.416 of this subchapter in or on any motor vehicle carrying passengers for hire except where no other practicable means of transportation is available. Packages of radioactive materials must be stored only in the trunk or baggage compartment of the vehicle, and must not be stored in any compartment occupied by persons. Packages of radioactive materials must be handled and placed in the vehicle as prescribed in § 177.842.

[29 FR 18795, Dec. 29, 1964. Redesignated at 32 FR 5606, Apr. 5, 1967 and amended by Amdt. 177-17, 36 FR 18469, Sept. 15, 1971; Amdt. 177-24, 38 FR 5315, Feb. 27, 1973; Amdt. 177-35, 41 FR 16131, Apr. 15, 1976]

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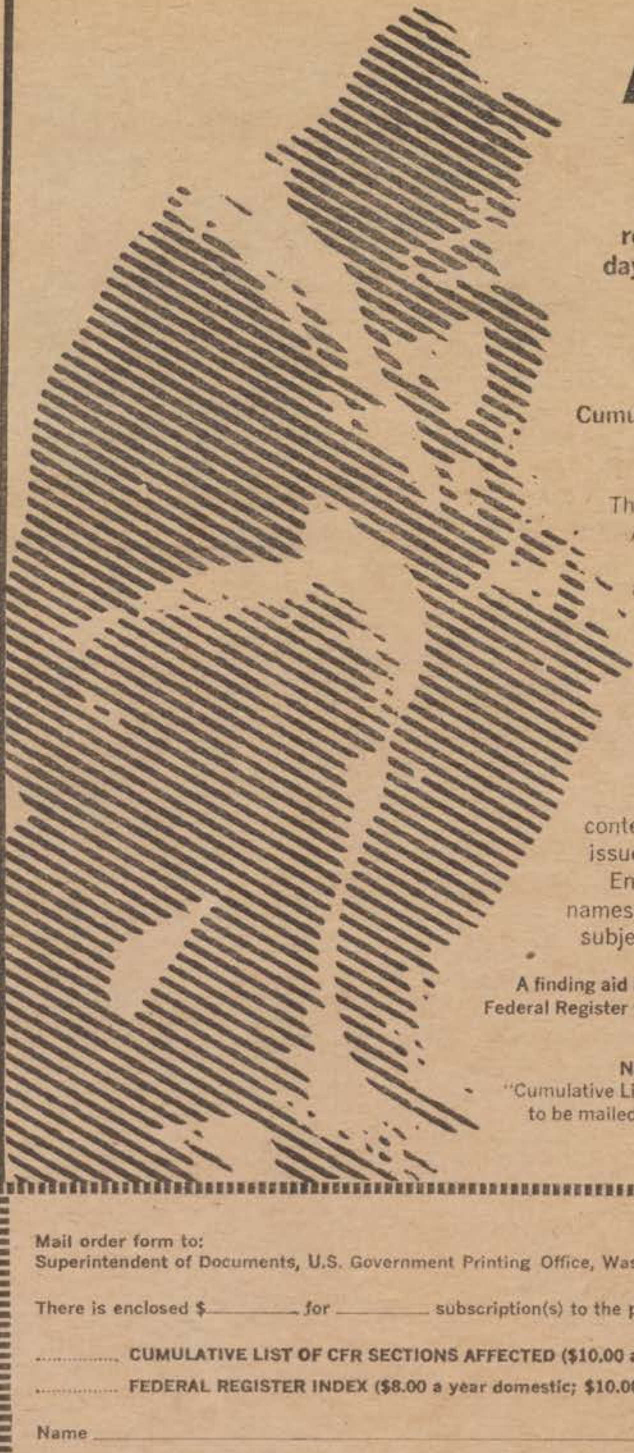

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